VIDEO SOLUTIONS: 5 Top Digitizers Compared—p. 34

AMIGA WORLD

September 1989
U.S.A. $3.95
Canada $4.50
UK £2.50
An IDGC/I
Publication

HINTS AND TIPS TECHNIQUES

#*?!

Peladin

TIPS GALORE!

Graphics, Video, Productivity, Programming & More

PLUS! DOS Conversions, Reviews, Games

09
0 74470 65948 8

WIN Second Drive and a year's supply of New Titles published by Gainstar NOW!!! LOOK BELOW FOR MORE INFORMATION

TARGHAN

DEALER ENQUIRIES WELCOME – SPECIAL DISCOUNTS
Distributor enquiries welcome

Targhan

Far from Edengarhn is the castle of the evil one.

Far from your village, a lord keeps the secret, such a powerful lord that he cannot be human, a creature floating a world that dies and grows again . . .

Targhan is probably the most stunning game you'll ever play.

Targhan is an adventure-action game with more than 120 landscapes and 40 different characters. The game is playable on either keyboard or joystick.

The game offers digitised sound and outstanding graphics.

It will be released on Amiga, Atari and PC (EGA, VGA and CGA) by the end of Aug. The game will run on both colour and mono screens.

Look for reviews in *Commodore User, Popular, The One, C&VG, Ace, ZAP, The Games Machine* and *Amiga User International* soon!

Silmarils

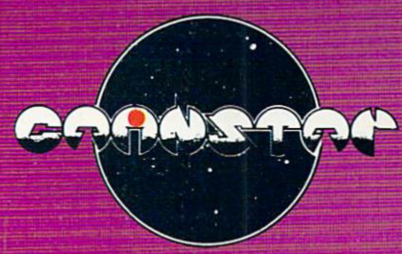
To enter our competition please send your warranty cards of TARGHAN and complete the following:

I like the game Targhan because ....

....

Send your entries to: Gainstar, RR 1 Box 192, Alstead, NH 03602
SURREY GU17 8AW ☎ (0252) 877431-879718 • Fax: (0252) 877431
Closing date October 1, 1989.

Circle 153 on Reader Service card.



VOLUME 5, NUMBER 9 SEPTEMBER 1989

·C·O·N·T·E·N·T·S·

FEATURES

ARTICLES

COLUMNS

DEPARTMENTS

REVIEWS

GAMES

MYSTERY SWEEPS UPDATE
We won't know until next month's issue who the winners are in **The 1989 *Amiga-World* Mystery Sweepstakes** (nor can we publish the solution until then). But we can reveal one secret that we've been keeping: Turn to **page 54** and you'll learn just how the winners of those **$25,000 worth of prizes** will be chosen—it's no ordinary lottery drawing!

COVER ILLUSTRATION BY DANIEL PELAVIN

AmigaWorld (ISSN 0883-2390) is an independent journal not connected with Commodore Business Machines, Inc. *AmigaWorld* is published monthly by IDG Communications/Peterborough, Inc., 80 Elm St., Peterborough, NH 03458. U.S. subscription rate is $29.97, one year; $46.00, two years; $64.00, three years. Canada $38.97 (U.S. funds), one year only. Mexico $38.97, Foreign Surface $49.97, Foreign Airmail $84.97 (prepayment is required on Foreign Surface and Airmail subscriptions in U.S. funds drawn on U.S. bank). All rates are one-year only. Second class postage paid at Peterborough, NH, and at additional mailing offices. Phone: 603-924-9471. Entire contents copyright 1989 by IDG Communications/Peterborough, Inc. No part of this publication may be printed or otherwise reproduced without written permission from the publisher. **Postmaster**: Send address changes to *AmigaWorld*, Subscription Services, PO Box 58804, Boulder, CO 80322-8804. Nationally distributed by International Circulation Distributors. *AmigaWorld* makes every effort to assure the accuracy of articles, listings and circuits published in the magazine. *AmigaWorld* assumes no responsibility for damages due to errors or omissions.

Report: Summer Dev Con '89

Hot news from the developers' den.

NEW PRODUCTS, PROJECTS, and plans were the order of the day at June's Amiga Developers Conference in San Francisco. The bi-annual gathering gives third-party and Commodore developers the chance to share ideas, breakthroughs, setbacks, and solutions.

The biggest news this time was AmigaDOS 1.4 and the Enhanced Chip Set (the ECS, consisting of Agnus 8372-R3 and Denise 8373-R2a) for the A500 and A2000. CATS (Commodore Amiga Technical Support) distributed Alpha disks of 1.4 to all attendees and sold the ECS to interested developers. Providing better graphics and animation capabilities, the new Agnus chip gives you up to one megabyte of Chip RAM, plus the ability to create "big blits," measuring 32K × 32K pixels. The revised Denise and Kickstart 1.4 routines beef up genlock support with ChromaKey, BitPlaneKey, BorderBlank, and BorderNotTransparent options. You can also thank Denise for new screen resolutions—SuperHires (1280 horizontal pixels per scanline) and Productivity (four color, 640 × 480 resolution, non-interlaced). While SuperHires will work with a standard NTSC monitor, Productivity mode will require a multi- or bisync monitor. Commodore's new monochrome scan-converter 14-inch monitor, the A2024, will support both display modes and offers resolutions of 1008 × 800 pixels in NTSC and 1008 × 1024 pixels in PAL format.

Version 1.4 of the operating system offers plently more besides new resolutions. The FastFileSystem will reside in ROM and work with floppy drives. Intuition will be expanded and the narrator device improved. Responding to popular demand, Commodore will incorporate ARexx—a hot topic for all developers—into the operating system. A small sampling of other niceties you can expect includes a more professional looking Workbench screen, more meaningful messages for Guru errors, information strings instead of fuel gauges on Workbench screens, plus a pattern editor and font selectors from within Preferences for user-specified font type and size for screen icons.

On the other side of the operating system fence, CATS held a UNIX session and demonstration. The A2500UX is currently available in Europe, but U.S. users will have to wait a bit for the system with a UNIX hard drive and 68030 board.

The wait is not surprising considering the number of hardware projects keeping Commodore busy. The A590 SCSI/XT offers A500 owners a SCSI controller, a 20MB hard disk, and sockets for two megabytes of RAM. For A2000 owners, CATS discussed the A2091-40, consisting of the A2091 SCSI controller, a 40MB drive, sockets for two megabytes of RAM, and a Amiga 2000HD nameplate. If you already bought an A0290A, Commodore promises an A2090B card to add autobooting capabilities to your existing controller. More specialized Commodore products include a 256-color hi-res graphics card (the A2360), a multi-serial-port card (the A2232), and an A2000-compatible 25 MHz 68030 accelerator board (the A2630).

By far, the biggest hardware news was the Amiga 3000, with a 25 MHz 68030 chip on the motherboard. Sure to please power-hungry users, the A3000 could be a trailblazer of the first order.

To please a less technical but equally demanding audience, Commodore demonstrated its new icon-based, object-oriented authoring system. With it, you can create multimedia presentations (incorporating text, graphics, animation, sound, and video) without relying on programming skills. Educators, business people, and anyone needing to combine the Amiga's sound, graphics, and animation capabilities with genlock displays and laser disks should welcome this user-friendly point-and-click environment.

Commodore offered plenty of encouragement for third-party developers, as well. To help subsidize their projects, Commodore is offering both technical and financial assistance. In addition, the company will organize a committee of Commodore and third-party representatives to improve communication, solve problems, and share ideas.

In the seminars, CATS made it clear it yearns to see improvements in commercial software. The group called for standardized documentation terminology geared to new users and more intuitive program interfaces. Other suggestions were to make programs fully compatible with 68020 and 68030 systems, to simplify the installation of software on hard disks, and to take advantage of the A2088 and A2286 Bridgeboards' RAM resources from the Amiga side of the system. Judging from the numerous nods in the audience, third-party developers agree with the ideas.

Commodore itself admitted to needing improvement. In his keynote address, Harry Copperman, the company's latest president, presented a five-step plan designed to bolster Commodore's image, customer support, and Amiga sales. He recognizes the Amiga is up against stiff competition and that focused marketing coupled with improved customer support could be his best weapon. His and the Commodore development team's ambitious plans bode for a lot of good news at the winter Dev Con in Paris. ■

—Tim Walsh

REPARTEE

Comments, complaints, and concerns from AmigaWorld *readers.*

PERFECT FUTURE

WORDPERFECT CORP. recently announced that it is ceasing development of all new Amiga products, and that currently existing products will be supported only by bug fixes.

I don't know about you, but this alarms me. It alarms me because the availability of WordPerfect for the Amiga is an important part of the Amiga's recent success. By ceasing development of all future products for the Amiga, WordPerfect Corp. is breaking a promise it had made to the Amiga community to continue to develop Amiga versions of its products.

I urge all people reading this letter to write and/or call WordPerfect Corp. and tell them that you would like to continue to see new WordPerfect Corp. products developed for the Amiga.

If a lot of people will call and write WordPerfect Corp. about this, they will probably reconsider their decision to cease development of Amiga products, and the future of the Amiga will be greatly enhanced.

Marc Barrett

For those who haven't already heard the good news, the folks at WordPerfect Corp. have decided to throw their hats back into the Amiga ring. According to Rebecca Mortensen, Amiga Products Publicist for WP Corp., "reaction from a large number of Amiga users persuaded WP Corp. officials that our position regarding product development for the Amiga should be reconsidered."

The company will continue to develop WordPerfect and WordPerfect Library; a 6.0 version of WordPerfect that will include graphics support is a long-range goal. Development of PlanPerfect, a spreadsheet for the Amiga, has been dropped so that the company can concentrate its resources on the continued development of WordPerfect.

HARD DRIVE UPDATE

IN OUR JULY '89 roundup of hard drives and controllers ("Hard and Fast," p. 22) we reported the Xetec Fasttrak (A500) and FastCard (A2000) were capable of reading large contiguous chunks of data at around 700K bytes per second. Too late to change the article, we were told that the Xetec controller had a problem that made it test faster than it actually performed.

According to Xetec, the problem was the MaxTransfer default value for a FastFileSystem partition. In units shipped prior to April 7, 1989, this value was set to system infinity ($7FFFFFFF), which allows data chunks of essentially unlimited size to be sent through the controller. When a read or write occurred that exceeded 128K in length, however, the operation was truncated or aborted, but the controller provided no error message. When the testing programs (DiskPerf 2.0 and PerfTest, which measure pure data I/O) tried to read or write files larger than 128K, they gave results that were faster than the controller actually was working. Worse, the problem could corrupt very large files. To correct the problem, you use Xetec's Partitions Utility program to change the MaxTransfer value for the FastFile partition to $0001FE00, exit the program, and then reboot.

To correct the DiskPerf 2.0 and Perftest results and relative rankings of the drives, I retested both Xetec's A500 and A2000 units under the same conditions used in the article. The results were significantly less than the originals, down about 200K for reads and about 100K for writes. Both the Xetec A2000 FastCard and the A500 Fasttrak Read/Write times reach a maximum of 510K/310K bytes per second (overscan Read/Write is 198K/124K). Of the seven A500 hard drives we tested, the Xetec Fasttrak remains the fastest of the group and is still my favorite. The A2000 Xetec FastCard, however, dropped to third in the speed race; Commodore's A2090A and the MicroBotics' HardFrame are faster. The Hardframe remains the controller of choice.

Obviously, when we make these kinds of tests we strive for accuracy, which is one reason why we used two testing programs written by different programmers. Two authors, working independently, got the same results on both an A500 and an A2000 with different Xetec controllers, so we had no reason to doubt the results. As insurance, I called Commodore engineering and reported our results. They informed me they had gotten significanlty higher results with some controllers in their lab, so the Xetec speed numbers were quite possible. We were wrong, however, and apologize. Xetec also wishes to express their regret for not telling us of the change before press time.

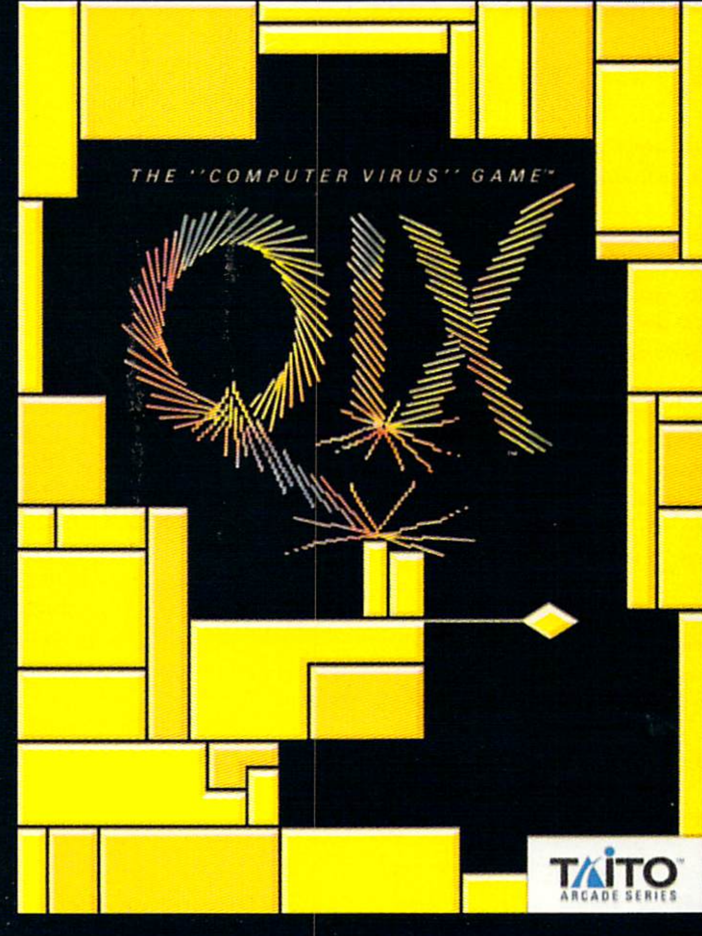
This episode shows the importance of companies notifying us of changes to their products. With up-to-date information, our reports will be accurate, and everyone—developers, the magazine and readers—will come out winners.

Louis R. Wallace
Contributing Editor

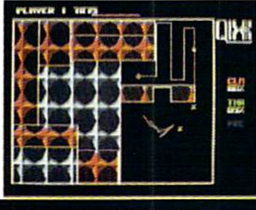
Send your letters to: Repartee, *AmigaWorld* Editorial, 80 Elm St., Peterborough, NH 03458. Letters may be edited for space and clarity. ■

VIRUS!

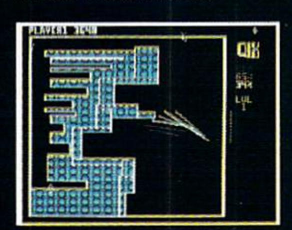
CAN YOU KICK THE QIX® ADDICTION?



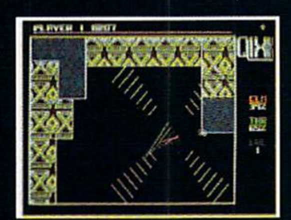
When QIX fever strikes, there is no cure! Like the mind-blowing arcade original, QIX is a computer virus that lives deep inside your computer, attacking without warning. Construct a trap in any one of the billions of configurations possible to immobilize QIX. But watch out for SPARX™ and SPRITZ™ and other deadly energy forms! In this electrical world of high-tech infections, mental dexterity and superior strategy are basic to survival. The practice mode turns beginners into addicts. No one is immune! Get your QIX before QIX gets you!



Actual Atari screen.



Actual C/64 screen.



Actual Amiga screen.



If you cannot find this product at your local retailer, Visa/Mastercard holders can order direct anywhere in the United States by calling toll free 1-800-663-8067.

NOTEPAD

Compiled by Linda Barrett

Help from Gramma



GRAMMA SOFTWARE, a Seattle-based Amiga software developer, has begun a public drive to furnish clean socks and underwear to homeless Seattle residents.

Michael Hugo-Loyacon, co-founder of Gramma Software, said that the charity drive began as an attempt to help Seattle's estimated 2,000 homeless residents. "We contacted the Seattle shelters to find out what their most pressing needs were for the homeless, especially in the area of clothing," said Loyacon. Shelter operators told Loyacon that they were often short of men's clothing—especially men's clean underwear.

Loyacon eventually spoke to Joe Madalay, vice chairman for Fruit of the Loom, who put him in touch with K mart Department Stores' National Contributions Office, and ultimately with Kathy Wallace, Apparel Manager of K mart's Edmonds, Washington store. Wallace arranged to sell brand new socks and men's underwear to Gramma Software at very low cost. "We still have to pay for it," says Loyacon, "but the price is right, and the shelters couldn't be happier." The clothing is currently being distributed to two Seattle shelters: the Men's Shelter at the Union Gospel Mission and the Bread of Life Mission.

Gramma Software would like to expand the program, but organizers doubt whether they can afford to continue the contributions indefinitely.

In an effort to keep the program alive, Jim Clarke, vice president of Seattle's Puget Sound Bank (North City Branch), has just set up a fund to accept tax-deductible monetary donations to pay for and distribute more new socks and underwear to Seattle-area shelters. Checks should be made payable to "Gramma's Underwear Donation Project," Puget Sound Bank, 1519 NE 177th, Seattle, WA 98155.

—SL

Summer Surprises

WHILE THE THUNDER and lightning were storming outside in Chicago last June, it was raining entertainment software inside McCormick Place at CES.

Developers flooded the show floor with computer versions of movie and TV hits. Mindscape, for instance, went where no Amiga software has gone before in **Star Trek V: The Final Frontier**. Visitors to the Taito booth got to play Stallone in **Rambo III**, while Activision's guests saw **Ghostbusters II**'s Slimer in action. In the Electronic Arts booth, Lucasfilm Games rolled **Indiana Jones and the Last Crusade**. James Bond starred in the Broderbund booth, where **Licence to Kill** played on both a silver screen and a computer screen. Creature feature fans favored Cinemaware's **It Came From the Desert**, a take-off on *The Blob* and other 1950's "B" movie classics. **RoboCop** was showing at the Data East booth, as was **Batman, The Caped Crusader**. MicroIllusions, meanwhile, introduced **Jonny Quest** for nostalgic adventurers.

Board-game addicts also found their share of remakes. Virgin Mastertronic offered previews of the classics: **Monopoly**, **Clue**, and **Risk**, as did the upstart company California Dreams with **Club Backgammon**, and a couple of games with historical roots: **Mancala** and **TrianGO**. **Ishido**, another ancient board game, was available for testing in the crowded Epyx booth.

For animal lovers, Konami promised the Nintendo hit **Teenage Mutant Ninja Turtles** for the Amiga, and across town at the Shedd Aquarium, Psygnosis demonstrated **Beast**, an arcade adventure with 13 levels of parallax scrolling. Two British companies, Elite Systems and System 3, both newcomers to the US Amiga market, had arcade releases on display.

Just to be different, Electronic Arts demonstrated **Deluxe-Video III**.

While the development format of choice is still MS-DOS, the Amiga format is increasing in popularity. No longer does it appear at the bottom of release-date lists. . . a promising omen of what the future holds.

—BGT

ILLUSTRATED BY MARCEL DUROCHER

RAMBO® III

NOT MILITARY. NOT MERCENARY. AND YOU'RE DEFINITELY NO TOURIST...

RAMBO® III

TAITO™

NOT MILITARY. NOT MERCENARY. AND YOU'RE DEFINITELY NO TOURIST...

SOVIET COMMANDER: "WHO ARE YOU?"

RAMBO: "I'M YOUR WORST NIGHTMARE."

Remember that line? Now YOU can deliver it to the enemy—in person. Thirty miles over the Afghanistan border, Soviet forces are torturing your friend and mentor, Colonel Trautman. You're the only man alive with enough guts, brawn, and resourcefulness to single-handedly rescue the man who taught you how to fight. Every Soviet commando, tank, and attack chopper in the sector is on your tail. It's the ultimate contest for the ultimate fighter.

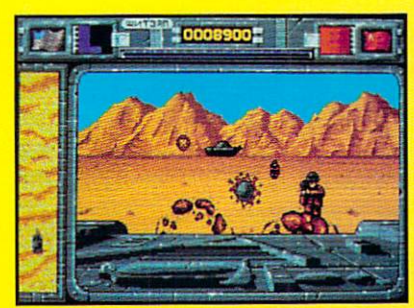
Amiga game screens.



It takes more than muscle to de-activate electronic gates, cross treacherous mine fields, and find the keys to Trautman's cell.



Ever fly one of these things? With the enemy breathing down your back, that Hind chopper's the best way out of this hell hole.



It's just you and your hijacked tank against anti-tank missiles and choppers. Sight in and rearrange that balance of power!



If you cannot find this product at your local retailer, Visa/Mastercard holders can order direct anywhere in the United States by calling toll free 1-800-663-8067.

Circle 112 on Reader Service card.

REVIEWS

EasyLedgers
The Accountant

Two ways to find out whether the ink is red or black.

By Gary Ludwick

EVERY BUSINESS OWNER with an Amiga has dreamed of a program that would eliminate the receipts-in-a-shoebox approach to accounting, and better yet, the need to call a $65-an-hour accountant every quarter to straighten out a fiscal mess.

Both EasyLedgers (Brown-Wagh Publishing) and The Accountant (KFS Software) are good business-accounting programs, but don't fire your accountant just yet; they're not for everyone. Except for the accounting rules both must follow, these packages are about as different—in looks, feel, and capabilities—as two Amiga programs can get. EasyLedgers has the slick graphic interface of a state-of-the-art animation or video program. It turns basic accounting and bookkeeping into an intuitive point-and-click procedure. The Accountant, on the other hand, is more reminiscent of the mighty word processor WordPerfect (WordPerfect Corp.). It's not pretty, it doesn't use graphics, it's not simple to learn or use, and there's almost nothing it can't do.

I won't attempt to cover every feature and intricacy of each program, but by covering their high points, I will help you decide whether one of them is right for your business.

EasyLedgers

An import from Sybiz Software in Australia, EasyLedgers comes on a single, non copy-protected disk along with an excellent manual. The manual gives you a good rudimentary education in accounting basics, but don't expect it to answer all your questions about the complexities of double-entry bookkeeping.

EasyLedgers breaks down the accounting functions into four segments or "books": Inventory, Sales, Purchases, and General Ledger. Each book is divided into sections, and the sections are comprised of pages, each of which holds up to 36 accounts. Moving through EasyLedgers is a simple matter of pointing and clicking: Click on a section and you are there. Click on an account, and it's ready for action.

In the Sales Book, for example, which is essentially your customer catalog, you might set up the sections according to geographic areas or the types of businesses you sell to. Your pages will hold customer names under each of those sections.

Double clicking on a customer name opens a window showing the contact's name, business address, discount given, tax code, and so on. This window also contains two gadgets. Clicking on the one labeled Transactions gives you a listing of everything that customer has bought from you in the current accounting period. The other, the Outstanding gadget, summons a status report of that customer's account, including outstanding invoices.

Each of the other books works similarly. Your Inventory book would be sectioned by product type, and the pages would contain item listings. Double clicking on a product name displays the supplier of that product, unit price, vendor terms, reorder level, and so forth.

Systematic

EasyLedgers is an automatic bookkeeping system. It can generate invoices, subtract items from your inventory, post transactions to your accounts-receivable log, and update your general ledger with the appropriate debits and credits. The program provides an astonishing variety of printed reports—over 20 in all, including general-ledger trial balances, customer statements, liquidity ratios, and mailing labels.

Best of all, you need not remember any account numbers to use EasyLedgers. You can integrate your accountant's code numbers into your system, but while these references show up in your records and printouts, they are not required for data entry.

The Accountant

The Accountant comes on three non copy-protected disks: One contains the general ledgers and payroll program, one is for data, and the third, called Day-To-Day, provides the sales and expenses journals and transactions for maintaining your general ledger on a daily basis.

Although The Accountant bills itself as a simplified double-entry accounting system, it is not nearly as simple to use as EasyLedgers. This is true partly because it lacks a true Amiga interface (its screen is bare-bordered with pull-down menus), and partly because it is inherently a more complicated and powerful program.

The Accountant provides not only the sales, inventory, expenses and general-ledger capabilities of EasyLedgers, but also integrates your company's checkbooks (up to ten) and payroll into the system. The payroll function lets you maintain individual records on each employee, automate the printing of W-2 forms, and tally all federal, state, and local taxes deducted. Miscellaneous deductions—for a medical plan, for instance—are also supported, and you can automatically generate year-end contract labor and 1099 reports.

PULL AND TYPE

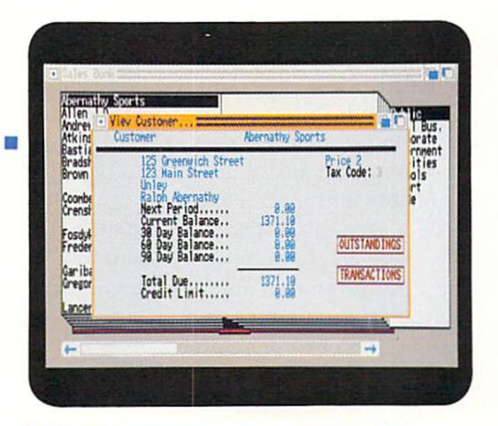
Like EasyLedgers, The Accountant can generate invoices, maintain vendor records, issue monthly account statements, and handle the aging of both payables and receivables. Instead of pointing and clicking, however, working with The Accountant involves a sometimes-tedious process of selecting pull-down menu items and typing into crude input screens.

An exclusive feature of The Accountant is its ability to integrate with a point-of-sale cash-register system. This capability allows a small- to medium-size retail operation (with inventory of up to 5000 SKU # items) to automate its sales, returns, and inventory operations. The program accommodates up to 99 departmental classifications so you can define profit and loss categories in detail.

The Accountant matches EasyLedgers in terms of report generation, but its manual, while thorough and well written, may be confusing to those with little or no accounting background.

DEBITS AND CREDITS

Both EasyLedgers and The Accountant have drawbacks, some minor, some more serious.



Click on a customer name in EasyLedgers, and you get details on that account.



The Accountant is not pure Amiga, but it is pure power.

The Accountant's biggest problem is a combination of its reliance on numbers (for accounts, vendors, customers, and so on) and lack of an on-screen help facility. You must either have a prodigious memory or keep a lot of printed lists close at hand to use the program effectively. This is a major barrier to productivity, and one that can be avoided on the Amiga. A control-key facility, such as the one Phasar (Antic's home financial package) offers to reference account lists and numbers, would be appropriate.

The Accountant is also inflexible in some areas. It accepts only three-digit accounting code numbers, for instance, so I had trouble using my accountant's four-digit codes. Similarly, its financial reports are based on a series of predefined general-ledger account titles. While the program allows you to change the account numbers and ranges themselves, it does not let you alter print parameters. As a result, when I set up the ranges to suit my accountant's system and printed a Trial Balance and Financial Statement, assets wound up under the Equity label, current liabilities were titled Fixed Assets, and so forth. KFS Software will customize The Accountant to your particular system or account numbers, but this service costs extra (provide KFS with specifics and they will give you a cost estimate) and requires that you surrender your program disks for the operation.

Because it is written in compiled BASIC (the program was originally developed for the Commodore 64), The Accountant is a bit sluggish. Clicking into boxes and requesters yields a slower response than it does in EasyLedgers.

Working with The Accountant entitled me to a couple of visits to the Guru. While this is an annoyance with most programs, it is really scary when you are working with your company's financial information. I shudder to think of the potential for wiping out weeks or months of work in an instant.

EasyLedgers never crashed, but it too could use a few modifications. For instance, why can't a program this sophisticated remember my last transaction, check, or receipt number? When posting payments, other such programs present you with a clean form numbered 234 after you have finished writing check 233. Not so with EasyLedgers. When you call for a new transaction, it displays the information for check 233, which you must clear out using the backspace delete key. A minor point perhaps, but annoying. In a related vein, why doesn't EasyLedgers send a form feed after printing a report? Again, not a big deal, but a rough edge that grates when you are generating multiple reports.

Finally, there seems to be a glitch in the end-of-period book-clearing function that erases not only unneeded numbers, but also clears all of your books of their sections and pages. This happened to me twice: once when I selected the clearing option, and another time when I had looked at the menu but had not actually executed it. The first time, I spent four hours putting the categories back in. The second time, I used the reconstruct utility included with the program, which ►

promptly restored all my account titles and sections.

Trial Balance

As the owner of a small business, I eagerly looked forward to putting these programs to work. I could hardly wait to have all my company's financial data at my fingertips, and was anticipating savings on cancelled trips to the accountant.

It didn't turn out the way I planned.

There are several things every potential buyer of these programs must be aware of. First, some training in accounting is a must. If you have been routinely turning over your checkbook stubs to your accountant every month, you are not prepared to set up these programs, or make them work without an accountant's guidance. To their credit, both program manuals suggest getting an accountant's help.

Also, because both programs require a substantial number of hours to set up and maintain, you should weigh the value of your time against the fees your accountant charges. My experience suggests that you or a staff member needs to devote time each and every day to maintaining these programs. (Depending on the size of your business, EasyLedgers may exempt you from this requirement.)

Lastly, these programs are best suited for retail businesses in an accrual accounting system. Owners of service-only businesses on a cash accounting basis will probably find use for only the general ledger sections of The Accountant and EasyLedgers, because such businesses have no inventory, and payables and receivables are not included in their financial framework.

Sorting it Out

EasyLedgers is the easiest to use. If you can live without integral checkbooks (which means you need another piece of software to handle checkbook chores), payroll capabilities and associated forms and reports generation, and the ability to integrate a point-of-sale cash-register function, then EasyLedgers is the one to investigate.

If you want those features, however, look at The Accountant. You will need a good grasp of accounting principles and methodology to make it work, though, and probably an operator who can devote several hours a day to its care and feeding, too. The Accountant is a powerhouse capable of providing every business accounting function you will likely need—at a price identical to EasyLedgers. Along with it you will receive excellent telephone support, the capability for program customizing, and the offer of lifetime support (including annual tax routines) and at-cost ($9.95) upgrades for an additional $24.95.

Don't have a week or more to set up the system and a couple of hours a day for maintenance? Then send a bouquet to your accounting office with your next batch of check stubs and receipts. . .and pray they don't raise their rates.

EasyLedgers
Brown-Wagh Publishing
16795 Lark Ave.
Suite 210
Los Gatos, CA 95030
408/395-3838
$295
One megabyte required.

The Accountant 1.3
KFS Software
PO Box 107
1301 Seminole Blvd.
Suite 113
Largo, FL 34649
813/584-2355
$299.50
One megabyte required.

M2Sprint

Competition for the standard.

By David T. McClellan

THE MODULA-2 scene is buzzing. Seems there's a new kid on the block. This kid's not green, though; by the looks of the Jams he's wearing, he's been in the neighborhood before.

M2Sprint, a single-pass Modula-2 compiler from M2S, features an integrated editor/compiler/linker and a postmortem symbolic debugger. As I read through the libraries and documentation, I experienced déjà vu. Looking at the manual ►

For GOAL! Oriented People.











Amiga Screens Shown

C-64/128 Screens Shown

PRO SOCCER

An outdoor soccer field is 7,200 square yards of wide open space — unless there happen to be 22 soccer players on it making picture-perfect passes, slide tackling opponents and executing shots of which highlight films are made. You can be one of those players, with **Keith Van Eron's Pro Soccer!** Play against the computer, another player or watch the exciting demo games.

- **Variable match options, even weather conditions!**
- **Slow-motion replay feature lets you relive your highlights!**
- **A history of World Cup & Soccer included in the manual!**

An indoor soccer field is a crowded, 1500 square yard arena surrounded by unforgiving plexi-glass — except when there are 12 soccer players darting about like human pinballs, trying to force the ball through impenetrable defenses and past goalkeepers with incredible reflexes guarding a box only 12 feet wide. You can be one of those players, too, with **Keith Van Eron's Pro Soccer!**

- **Control the power and direction of all shots on goal!**
- **Realistic, and unpredictable rebounds off the boards!**
- **Manual includes a history of the MISL!**

NEW FROM

MEDALIST INTERNATIONAL

A marketing division of MicroProse Software Inc.

180 LAKEFRONT DRIVE • HUNT VALLEY • MD 21030





Can't find PRO SOCCER? Call (301) 771-1151 weekdays 8am to 5pm EST and order by MC/VISA; or mail check or money order for $34.95 for C-64/128 version; plus $2.50 for shipping and handling U.S. funds only. MD residents add 5% sales tax. $5.00 for international order. Allow 1-3 weeks for U.S. delivery. Coming soon for IBM/PC and compatibles.

Circle 198 on Reader Service card.

for TDI Modula-2 (TDI Software Inc.), I found marked similarities. TDI's Easy-Gadgets library is much like the Easy libraries in M2Sprint, and of the three Modula-2 compilers I reviewed earlier (see p. 45 in the July '88 issue of *Amiga-World*), only TDI had a debugger—one very similar to M2Sprint's. But while the TDI package fell short of my standards, M2Sprint sports a fine single-pass compiler, higher quality code, better tools and libraries, and more refined documentation. Furthermore, M2Sprint offers simple interfaces to some of the Amiga Libraries, C-like string functions, and ARP (AmigaDOS Replacement Project) and ARexx interface libraries in addition to the standard Modula-2 and Amiga libraries.

CHILD'S PLAY

M2Sprint includes a profiler, a cross-referencer, a compiler-batcher (a Modula version of the "make" recompiling utility), and a hot-key tool that lets you bring up the editor from the CLI by pressing the CTRL-ALT-W key combination. From the full-screen editor, you can compile, link, and run your program. It offers all the features you expect in an editor, and distinguishes itself by intelligent employment of the mouse.

You set compiler and linker options via a requester in the editor or using a separate tool. The editor allows you to step through your source program and match lines with any errors discovered by the compiler. This function is not fail-safe, though. In my tests, the editor sometimes missed by a line or two, and sometimes found fewer errors than the compiler reported. Once the editor has loaded the reasonably-sized compiler and linker, it keeps them in memory to speed subsequent compiles and reduce disk swapping. This feature failed me only once, when a program crashed while running from within the editor. Perhaps memory had become too fragmented. After rebooting, I ran it outside the editor and had no problems.

I became frustrated in tracing errors that the compiler should have caught. For example, I tried several times to compile, link, and run a program containing simple real (floating-point) math, but the process failed each time the program attempted to convert an integer to a real number. Searching the manuals, I discovered that linking real math requires the RTR.lnk or RTAR.lnk runtimes instead of the usual RT.lnk file. The program ran to completion once I reset the configuration file and relinked, but I am confused as to why the linker did not signal an error.

FACE-OFF

M2Sprint vs. Benchmark: Modula 2

PREPARATION TIMES (in seconds)

Combined Test	M2Sprint	Benchmark: Modula 2
Compile	46*	34
Link	34*	42
Size of exec.	23.6K	42.4K

* The compile and link times for M2Sprint include an unavoidable disk swap.

EXECUTION TIMES (in seconds)

Test	M2Sprint	Benchmark: Modula 2
FFT	25.6	28.7
Permutation	5.6	5.3
Tower of Hanoi	7.1	7
Eight Queens	2.7	2.7
Int Matrix Mult	12.0	8.6
Real Matrix Mult	14.9	21.2
Puzzle	28.4	27.5
Quicksort	7.1	5.5
Bubble Sort	8.0	7.6
Tree Sort	11.0	9.9

M2Sprint's compiler and module definitions and libraries are sizable. Those without hard disks will appreciate M2Sprint's configuration tool. I used it to fill two floppy disks: one with the compiler and other tools, and one with the module headers and libraries. I swapped disks a lot during the first compile and link of a session. Because the M2Sprint tools use the ARP Library for some of their functions, you will need to add "arp.library" to your boot disk, along with a startup file to assign some logical names and add to your PATH.

PEST CONTROL

To use the debugger, you must first import, compile, and link a Debug module. Then, if the program encounters an error, the debugger lets you dissect programs to examine their variables and stack tracebacks. It does not let you set breakpoints or single step through the code, however, and using it, I found myself wishing for Lattice C's debugger.

In one instance, the debugger helped me find the source of repeated Guru errors: I was passing a LONGINT that was over the INTEGER range to a procedure that expected an INTEGER. I think the crashes were an overreaction, but at least the debugger located the problem.

Generally speaking, using the debugger is not a piece of cake. On another occasion, for instance, I spent a long time tracking down what turned out to be a small compiler bug. The Permutation benchmark does a sanity check by comparing a LONGINT counter it maintains to the value 43300 when it is done. In my test, the comparison always failed. At first I thought the counter might be at fault, but printing out the counter confirmed it to be 43300. It appears that M2Sprint can't handle comparisons to LONGINT literals (or CONSTs—I tried that, too). I ended up assigning 43300 to another LONGINT variable, and comparing the counter to it. That solved the problem.

I also could not get M2Sprint to convert LONGREALs or LONGINTs to REALs. I tried the FLOAT procedure and type conversion without luck, and the compiler would not let me get around it. I had to tweak the FFT benchmark—using REALs instead of LONGINTs in one routine and trusting

Continued on p. 76

You're never too old to Scribble!

Scribble! Platinum Edition

Scribble! Platinum Edition offers many improvements that make **Scribble!** the word processor of choice for beginning and experienced users.

Featuring rapid text entry and scrolling, **Scribble! Platinum Edition** offers the best of all worlds: power, speed, easy to use. In no time at all, you'll be writing memos, letters, or even a book!

SPELLING CHECKER

Platinum Scribble! shines in this area with a 104,000+ word dictionary with scientific and technical supplements. The Spell-As-You-Type option checks spelling on the fly.

Phonetic spelling, transposed letters, and contractions are no problem for **Platinum Scribble!** Enter *Kasil* and castle is suggested, *hte* finds the and *shalln't* finds shan't.

Modify the user dictionary by adding, editing and deleting words with the user dictionary maintenance program.

THESAURUS

Platinum Scribble! has a 470,000+ word thesaurus, with definitions. As a matter of fact, the word *right* displays 21 groups of synonyms.

MULTIPLE WINDOWS

Open up to 4 windows at once. Display your documents in 2, 4, or 8 color windows. Change the colors to suit your needs. **Platinum Scribble!** supports both interlace and non-interlace screens with horizontal and vertical overscan.

CUT AND PASTE

Copy, cut and paste text within a single document or from one document to another.

MAIL MERGE

Print form letters and mailing labels. Enter information at print time or automatically insert information from any mail merge text file.

IFF GRAPHIC SUPPORT

Print IFF graphics with any compatible printer supported by the Commodore Amiga printer drivers.

CLIPBOARD COMPATIBLE

Platinum Scribble! is clipboard compatible with Micro-Systems Software products.

OVERVIEW

• On-screen **bold**, *italic,* and underline, with highlighting for super and sub-script. • Support for laser printer font cartridges • Needs only 512k of memory • Not-copy protected • Easy hard drive installation • Free Technical Support for Registered Users.

better than ever



Committed to excellence since 1978

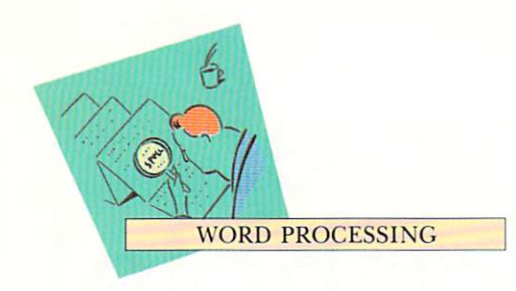
12798 Forest Hill Boulevard, Suite 202
West Palm Beach, Florida 33414
407-790-0770 FAX 407-790-1341

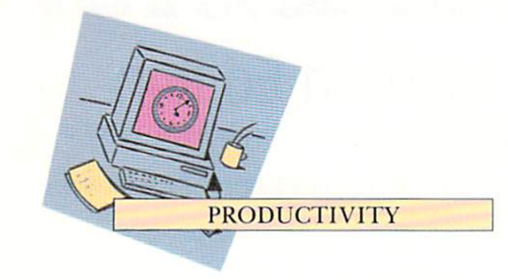
Dealers and Distributors Call 1-800-327-8724

See your local dealer for a demonstration.

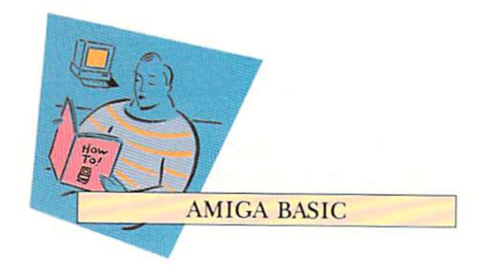
Circle 95 on Reader Service card.

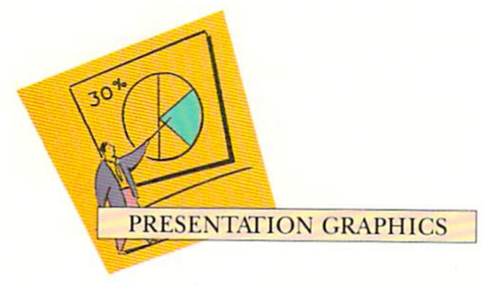












AMIGA TIP SHEETS

Helpful Hints,

Tips, and Techniques

In Six Major Amiga

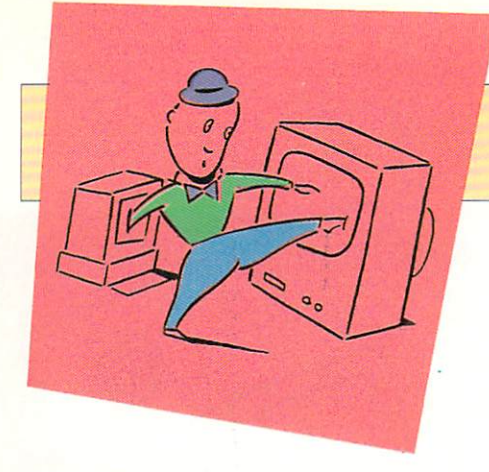
Applications Areas

TO KICK OFF our "Tips and Techniques" special, *AmigaWorld* sent its best tipsters out to scour the entire range of Amiga applications. Narrowing down the field to the six areas chosen wasn't easy, but we decided that the compact half dozen (listed at left) represented the activities in which our readers are most heavily involved.

So grab your tip sheets, find a spot along the rail, and let's see if our handicapping experts can put you in the winner's circle when it comes to your favorite Amiga applications. ►



ILLUSTRATED BY CATHARINE BENNETT



DESKTOP VIDEO

WHILE TIPS ON perfecting Amiga desktop-video techniques could easily run into the dozens, the following five items focus specifically on practical advice for transferring Amiga animations to video.

1 Use a Composite Monitor

Colors look great on your Amiga monitor, but when translated to NTSC (the color television standard), colors will have different shades and fine detail will be lost. While creating your animation, hook your Amiga up to a good color television or color composite monitor (the A500 and A2000 need an encoder). This will give you a better idea of what the final product will look like on video, and you will see why you must avoid over-saturated colors and single-pixel thick lines that look fine on the Amiga's RGB monitor. Don't use an Amiga monitor in composite mode, as it produces a poor composite image.

2 Avoid Sluggish Animation

The Anim compression format has become the standard used to play animations in real-time, but animation playback will slow down if there is too much movement from one frame to the next. This can be a real problem with complex hi-res animations. DPaint III, with its non-compressed anim option, and Photon Cel Animator, both allow you to play animations directly from memory without compressing them. This should speed things up, as well as insure that the animation will run at a uniform speed. You will need at least 2.5 megs for even very short sequences.

If complex animation at 30 frames per second is required, your only option is single-frame recording. Some 3-D animation software packages and Micro-Illusion's Transport Controller software allow single-frame recording, automatically recording each frame one at a time onto videotape. Besides the software support, you will need an animation controller ($2000 to $5000), and a professional VCR that will communicate with your controller. Hardware prices are dropping, and we may soon have service bureaus that offer single-frame recording, but until then it is an expensive proposition.

Another way to get faster animation is to split 16-color animations into a foreground and a background, each with eight colors. These animations will now run considerably faster, and you can record the background and then genlock the foreground over the top of it using two VCRs or two Amigas.

3 Always Record in Interlace

Recording Amiga animations created in non-interlaced mode will probably play back fine on the machine that recorded them, but because video requires an interlaced signal for synch information, you may find that your video will have a very unstable picture when copied to another tape or played on another machine. It is best to create your animation in one of the Amiga's interlaced modes, but if you are using a lo-res animator, such as Movie-Setter or Zoetrope, get a copy of Mike Berro's public-domain utility, Lacer. It runs in the background and interlaces any image that appears on the screen. You will also find that interlaced images have a much cleaner, sharper look to them when played back on video.

4 Record With the Best

While good results can be had by hooking up a home VHS recorder to the Amiga, the picture quality will be severely degraded if you try to copy or edit your master tape. If you use the newer S-VHS and ED-BETA recorders, good quality second- and even third-generation (a copy of a copy) tapes are possible. These newer machines require a Y/C-separated signal that allows for much higher resolution and better picture quality.

Consumer-level recorders that support Y/C signals start at about $1000, and include Sony's ED-Beta EDV-9500/7500, Hi-8 EV S-900 or CCD-V99 Camcorder, and JVC's S-VHS HRS-5000/8000.

If you need excellent quality, you might want to rent studio time and record on Betacam (recorders sell for about $20k). Betacam is better than the industrial 3/4-inch standard, and is almost as good as broadcast quality. There are more studios adding Amigas every day, charging from $75 per hour and up. There are also studios with S-VHS equipment, charging as little as $35 an hour—a real bargain for getting quality animation on tape.

5 Use a Good Encoder

To record the Amiga's RGB picture onto videotape, you need a device that translates the signal into composite (for a normal VHS recorder) or into Y/C (for ED-BETA, S-VHS and Betacam).

A good quality genlock will produce an acceptable encoded composite signal. There are also several genlocks out that will produce a Y/C signal, including Communication Specialties Gen-One, Vidtech's Scanlock, Digital Creation's SuperGen 2000S, and Omnicron Video's Omni-Gen 701. Because most Y/C genlocks also produce a composite signal, it may well be worth the additional cost even if you have only composite equipment now. Someday soon, you may need the better quality that the Y/C format machines provide.

A good low-cost encoder is the CMI VI500, which provides both Y/C and composite signals for under $80. To use it with the Amiga to record on a Y/C compatible recorder, you will also need Tony Gomez's S-View interface, which is being marketed by Software Sensations in Los Angeles for under $100. Other Y/C encoders are selling for $1000 and more.

A useful bit of information to know when using a Y/C encoder is that the Amiga monitor can also be used as a Y/C monitor. On the 1080, set the front-panel Video Mode switch to SEP., and plug the luminance Y/C cable into the white RCA connector on the back of the monitor, and the chroma cable into the red RCA connector. On the 1084S, set the front panel switch to CVBS, and plug the chroma into the red RCA connector, and the luminance into the yellow. □

—Geoffrey Williams ►

SANTA CLAUS IS COMING TO TOWN

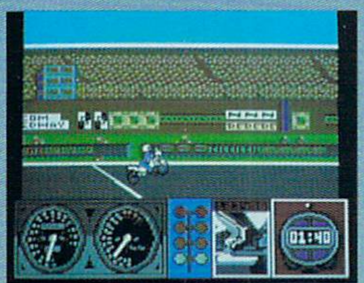
Better watch out!

After a test ride on Pocket Rockets, the high-speed motorcycle simulation game, Santa picked up a new sleigh that will make this year's rounds faster than ever. And whether you've been naughty or nice, you could win this Suzuki 600 Katana during "Santa's Sleigh Giveaway" in January.

Meanwhile, experience all the thrills and spills of high-speed racing with machines that take you from zero to 60 in under four seconds. Already gaining critical acclaim, Pocket Rockets lets you choose from four of the quickest, most exotic bikes on the planet. The action's as real as the adrenaline you'll feel.

Then, enter "Santa's Sleigh Giveaway" from Capcom U.S.A. Besides the chance to win a new Suzuki motorcycle, you could get a Bell full coverage helmet, or Capcom computer game software. Look to enter in all Capcom computer game packages or visit your favorite computer game retailer for more information. Capcom's belated Christmas giveaway is just around the bend so don't miss out on your chance to win!





LEFT: Try your skill against the clock with a couple of laps around the test track. RIGHT: Drag racing demands a quick wrist and fast shifting. Just don't blow the engine!

Circle 86 on Reader Service card.

POCKET ROCKETS

CAPCOM USA

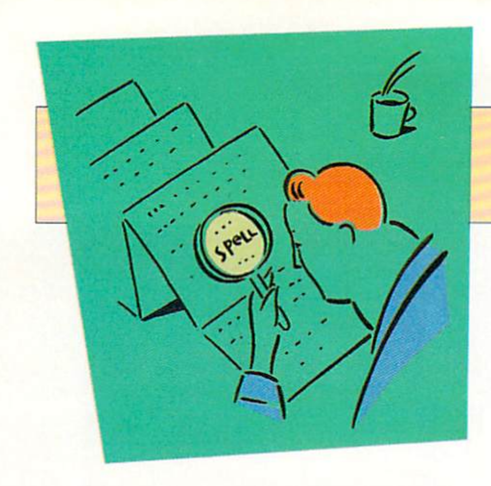
SWEEPSTAKES RULES How to Enter:

1. NO PURCHASE NECESSARY. Fill out and mail official entry found in package or you can enter by hand printing your name, address and zip code on a 3" x 5" piece of paper and mailing it to CAPCOM Santa's Sleigh Giveaway, 3303 Scott Blvd., Santa Clara, CA 95054. Enter as often as you wish. Each entry must be mailed separately by JANUARY 15, 1990. No mechanical reproductions of entry will be accepted and all mail-in entries must be received at the above address by JANUARY 31, 1990. No responsibility is assumed for lost, late, misdirected, or damaged entries.

2. Prize winners will be determined by means of a random drawing to be conducted by an independent judging organization whose decision shall be final. All prizes listed will be awarded, but there can be only one prize winner per household, group or organization. Odds of winning depend on the number of entries received. Approximate grand prize retail value is as follows: Suzuki Katana $4,495.00. Winners will be notified by mail by FEBRUARY 15, 1990 and may be required to execute affidavits and advertising release. Taxes on prize winnings are solely the responsibility of the winners.

3. Sweepstakes is open to U.S. residents except employees of CAPCOM U.S.A. and their immediate families, its subsidiaries and affiliates, its advertising and promotional agencies, and the judging firm. Prizes won by minors may be awarded to parent or legal guardian. Void where prohibited or restricted by law. All Federal, State and Local regulations apply. For a list of major prize winners send a stamped, self-addressed envelope to CAPCOM Santa's Sleigh Giveaway Winners List, 3303 Scott Blvd., Santa Clara, CA 95054 by MARCH 31, 1990.

CAPCOM®
USA



WORD PROCESSING

NEARLY EVERYONE USES a word processor and knows the basics of getting the program to work. Yet, there are so many little things that we forget—or are not familiar with—when we use them. Here are 15 tips grouped under four major areas of WP functions.

1 Composition Do's and Don't's

The Cardinal Rule of Word Processing: Save your work often. The few seconds it takes to save your file are nothing compared to the time it would take you to rewrite it after a system crash or power failure. Some word processors, such as WordPerfect, can be configured to automatically save your work every few minutes. If you do not have this option, a good rule of thumb is to save your file after every two paragraphs typed. Also, if you save to a hard disk, be sure to back up all your work onto a floppy at the end of a session.

Corollary: Save before printing, performing a spelling check, or any other "dangerous" activity. A printing problem or disk-read error could ruin your day if you have to reboot.

Type now, edit later. By editing later you avoid losing your train of thought as you stop to fix a mistake.

Do not over-rely on a spelling checker. It will not catch all of your mistakes, such as typing "your" instead of "you're," or "Stephens" instead of "Stevens." There's no substitute for proofreading.

After proofreading your document on screen, print a draft copy and check it on paper. It is amazing how many errors will jump out at you after you print.

While a built-in thesaurus can be handy, do not let it run wild over your documents. If you do, "the potentiality of terminating with a maladroit sentence analogous to this one is monumental!"

If your document will be bound, do not forget to leave a wider margin (at least 1.5 inches) on the left side. If the final copy will be printed on both sides of the page, you will need to reverse the left and right margins and page-number position on every other page.

2 Learn About Layout

If your word processor does not allow style sheets (templates that describe the way certain documents are laid out, such as business letters or resumes), you can make your own. Create a new file and set the margins, fonts, page-numbering style, and other settings for the type of document your are creating a template for. Then type a single space (to alert the program that your document is not empty) and save the file with a descriptive name, such as "busletter.template" Then, each time you want to create a business letter, simply load the template like a normal document, rename it, and start typing without having to set up the page format.

You can also use the templates trick for letterheads and envelopes. Simply add your address at the top of the file.

Limit your use of fonts. While using 20 fonts in a letter is a neat way to show off your Amiga's capabilities, it makes for a hard-to-read document. So, avoid the "ransom-note" look and use different styles of one or two fonts throughout your document. A good rule of thumb is to pick a serif font for body text and a sans-serif font for headlines or letterheads. If you need to set off a certain part of your document, use different point sizes of the same font.

The same goes for styles. Using a word processor, it is tempting to emphasize words by boldfacing, italicizing, or even underlining them. But overdoing it adds more distraction than emphasis.

3 File-Transfer Tips

If you are planning to import your text to a desktop-publishing program, keep your formatting to a minimum. While most DTP software will recognize boldfacing, underlining, and italics, things like page numbers, footnotes, and headers usually will not transfer.

Unfortunately, there is no IFF standard format for word-processor files, so you cannot directly read, say, a WordPerfect file into excellence!. Almost all word processors will save a file as plain, unformatted text. This option is often listed as "Save ASCII File." While you can load this plain text file into any word processor, you lose almost all of your formatting.

There are freely distributable file-conversion programs available for WordPerfect and ProWrite that will read some other word-processor files with formatting intact. A favorite trick of mine to get WordPerfect files into ProWrite is to save the WordPerfect file and use the freely distributable FC program to convert the text to Scribble! format. Then use ProWrite's Convert utility to convert the Scribble! file to ProWrite format.

4 Printing Payoffs

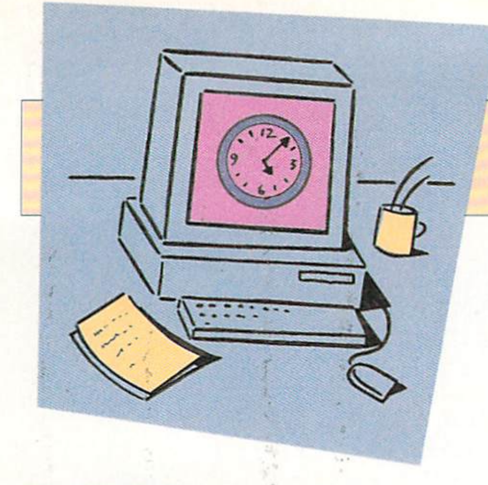
If your printout does not look right and the settings seem correct in your word processor, check your Preferences settings—sometimes they can override the word-processor controls. Margins, line spacing, and character pitch are the likely troublemakers here.

When using a font-and-graphics-based word processor, make sure you are using the Workbench 1.3 printer drivers. You will get better quality and faster printing. Note that some software was shipped with beta versions of the 1.3 drivers; these will cause problems if mixed with the release drivers or with the printer.device.

To get the best quality from your graphics-based word processor, set the Preferences Graphic 2 screen as follows:

Density:	7 This will use the highest density (darkest) graphics available on your printer. (Use density 1 for quick draft printouts.)
Scaling:	INTEGER This keeps fonts from being distorted by insuring that an even number of dots are printed for each pixel in the character.
Smoothing:	ON This will reduce the "jaggies" in both fonts and graphics. □

—Denny Atkin ►



PRODUCTIVITY

TO GET THE most out of productivity tools for your Amiga, the most important qualities you need to develop are patience, a willingness to learn and to practice, and an eye for perfecting intuitive techniques that will help you master some fairly sophisticated software.

1 Patience Makes Perfect

One of the most common mistakes Amiga productivity users make is that they tend to "jump in headfirst without first checking the depth." Spoiled by the intuitive interfaces that have become common in creativity packages, we often fail to invest the proper amount of study and practice it takes to make the most of the sophisticated productivity software. This is unfortunate because in almost every case, taking the time to read a program's documentation and making an effort to work with the practice tutorials that come with most productivity packages really can make a difference.

No matter how convincing a manufacturer's claims may be, never assume you will be an "expert in minutes." When your ultimate goal is working with important data, develop your usage strategies and habits while working on smaller, less crucial practice data. This will allow you to determine what features of a particular program are best suited for your application. You can then experiment with software combinations to ascertain which programs you may wish to multitask when working with your data. Finally, you will be able to hone your Amiga's configuration to best suit your total needs. This is called developing an "application environment."

2 Save the Environment!

When creating an applications environment, it is important to identify as many items as possible that you can automate in order to increase speed and accuracy when you are manipulating your data. One method for doing this is through the use of script files. Although a lot has been written about AmigaDOS script files in terms of executing AmigaDOS operations and creating your startup-sequence, few authors discuss them as tools for enhancing individual applications. The basic idea is to create an ASCII text file of commands designed to "launch" all of the programs you might want to run, make all the necessary assignments, and fully configure your environment automatically for you upon execution. Once you have created such a script file, you can use it to run your programs and configure your system by typing the AmigaDOS command:

```
execute scriptfilename
```

If you are using AmigaDOS 1.3 or ARP 1.3, you also can set the "s" and the "e" protection bits on in order to make your files autoexecute simply by typing the name of your script file without having to type the EXECUTE command.

There are a number or reasons why adopting this approach is helpful. As an example, let's take a look at the script file I used to begin this writing session (in this example, I have changed the names of my actual files for the sake of clarity):

```
ASSIGN spell: dh1:spell
ASSIGN typecheckdict: dh1:typecheck
ASSIGN editors: dh1:editors
ASSIGN articles: dh1:docs/articles
CD articles: RUN spell:spell_checker
  -userdict1
STACK 10000
RUN typecheckdict:type_checker
RUN editors:text_editor
```

The above script launches the three programs I normally use when writing on my Amiga, namely, a stand-alone spell checker, an "as-you-type" or interactive spell checker, and a text editor. The ASSIGN commands in the first three lines allow these applications to refer to a specific file path as a device/volume name. As a result, they are able to retrieve the data they need to function from my hard drive rather than from the original floppy disks they came on.

At this point, I am sure that some of you are wondering, Why not simply make these assignments as part of my startup-sequence? The main reason is speed. I like my machine to boot as quickly as possible, and I like my startup-sequence to be as simple as possible. Each assign slows this process, especially if you are working from a floppy disk and do not have a lot of RAM to sacrifice. In addition, it is not uncommon to want to reassign generic assignments to another destination for specific programs. A common example of this is programs that accept only a limited number of fonts within their menus. In such cases, if you have a large number of fonts in your FONTS: directory, you may want to reassign FONTS: to a directory containing only those fonts you are likely to use with this application. Throughout the remainder of my script file I use these assigned names to refer to their drive path when running the programs.

The ASSIGN command in the fourth line simply gives the system a shorter name to refer to when referring to the directory where I store my articles. The change-directory command in the fifth line then sets the current directory as my articles directory. This is attractive because many productivity applications, including my text editor, make their default directories the directory that was current when the application was initially run. By making my articles directory the current directory, the file requesters in both my text editor and my stand-alone spell checker will be ready to access data immediately from my articles directory without first having to be told where to look for the data. This is doubly important when working with such applications as WordPerfect, which always seems obliged to return to the default directory path containing the system disk.

The remaining lines of the script load the programs in a manner customized to my application. For instance, it loads my user dictionary—containing such computer jargon as "AmigaDOS," "multitask," and "vaporware"—at the same time as my spell checker. My spell checker requires a large stack, so I use the AmigaDOS STACK command to give it a wide berth. Finally, my text editor is loaded and my writing environment is in place. □

—Loren Lovhaug ►

Magic Johnson's BASKETBALL

1 MG AMIGA VERSION IDENTICAL TO THE ARCADE GAME!

Basketball the way the Pros play.

GAME INCLUDES Magic Johnson POSTER

Arcade action brings the realism of the big time game home to you in this direct translation of the popular coin-op arcade game, "Magic Johnson's Fastbreak Basketball."

Featuring:

- **Arcade-quality animated graphics and characters larger than any before seen in a home computer basketball game, because it's NOT a home computer game, but a REAL Arcade game!**
- **a full-court scrolling screen**
- **two-on-two play, WITH OFFICIALS!**
- **full stats – see if you can achieve Triple Doubles like Magic!**

Make the "jump shot," the "alley oop," and of course Magic's famous "fast break" with a "slam dunk" finish. Dribble 'round your opponent to make the "lay up" that wins the game!

Now you've earned the honor of playing the ultimate One-on-One . . .

You against Magic Johnson.

COIN-OP ARCADE

COIN-OP ARCADE

AMIGA 1MG

AMIGA 1MG

IBM EGA / TANDY

Available now:	Amiga (1 mg)	– $49.99
	IBM 5-¼"	– $39.99
	IBM 3-½"	– $39.99
Coming soon for:	Amiga (512 K)	– $39.99
	Commodore 64	– $29.99
	Apple IIGS	– $39.99

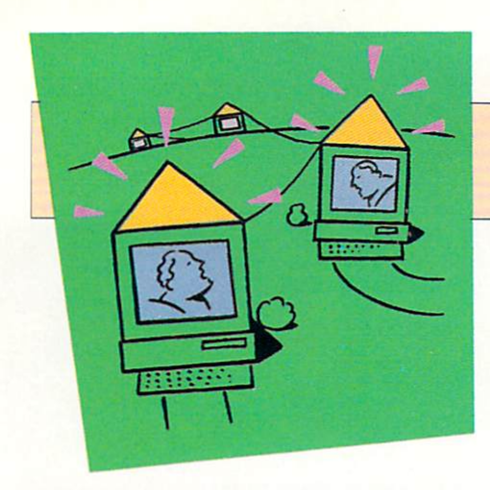


Setting New Standards
IN · COMPUTER · SOFTWARE

MELBOURNE HOUSE
711 West 17th St., Unit G9, Costa Mesa, CA 92627.
Tel. (714) 631-1001.

Melbourne House is a member of the Virgin Mastertronic Group.

Circle Reader Service #104



TELECOMMUNICATIONS

WHAT CAN YOU do with a modem? A modem puts you in direct contact with thousands of other Amiga users, all ready to lend you a hand. You can talk with experts to help with hardware or software problems, or solicit product recommendations. The tips below will also help prevent your modem from consuming the available balance on your credit card.

1 Buying a Modem

If you do not have a modem, now is the time to get one. Prices are lower than ever before. New 2400-baud modems (transmitting data at 240 characters per second) are selling for about $150. New 1200-baud modems (120 cps) are about $100, or about $50 used. With the extra throughput they deliver, 2400-baud modems are the best value. Key features to look for in the fine print: Hayes command compatibility and a speaker so you can hear what's happening.

Modems are common computer equipment these days, so they do not need to be Amiga-specific. If the modem connects to a computer via a serial port, it can be used with either an Amiga or an IBM PC. Supra sells an internal 2400-baud modem card for the Amiga 2000 that leaves the standard serial port free for other devices.

2 Know Your Networks

National computer networks charge between $5 and $15 an hour. To sign up, they often require a credit card. Networks popular with Amiga users are CompuServe, BIX, American PeopleLink, and GEnie. Local bulletin-board services (BBSs) are usually free, but the quality and quantity is often lower than that of a national network. If you can find the number of any local BBS, call it and ask for a list of other BBSs in the area. Even in a small city, there may be dozens of them.

Also, know exactly what you are paying for when you subscribe to a network. Some have an extra hourly charge for the data link between the local number you called and the service's main computer. Data link companies include Tymnet and Telenet. Flashy data, such as stock reports and weather maps, usually have an extra charge, too. Each network should allow you to view your current charges at any time.

Some networks have a "practice area" where you can learn to use the system without charge. Make use of this option because it can save you a great deal of money over your first few weeks on line. Also, learn to use the on-line help functions. If you get lost on any system, entering HELP or ? should lead to an answer.

3 On-Line "Moves"

After you become familiar with a network's menu interface, learn to use the "expert modes" to save more time. Instead of menus, you get short prompts. You enter the same commands for the same menus, except you do not see a list of your choices. Each system has a menu for custom settings, such as for turning on the expert mode or for pagination, and once you are used to them you should ignore the "Press RETURN for more. . ." prompts. If you are capturing the on-line session to a file, you should not be reading the messages as they scroll across your screen. Simply capture your on-line session to disk and save the messages for later reading.

Don't type messages by hand, either. Compose your replies in a text editor before you connect, and then let the communications program send them. Most programs do this with an "ASCII Send" or "Text File Send" feature. The program sends the file to the host computer a character at a time, as if you were typing it. To reduce charges even further, make sure your telecommunications software uses automated features (most commercial programs do). This will spare you the dreary details of sending and receiving files.

4 Compress Those Files!

In order to save time, groups of related program and data files are bundled together and reduced in size with special archiving, or "file-compression," programs such as ARC, ZOO and Warp. Available in the public domain, these can shrink a file's size by half. ARC and ZOO work on groups of files, and Warp can compress the contents of an entire disk. After you download the archive file from the network, you must use the compression program to expand the files back to their original size. To prevent chicken-and-egg problems, the ARC and ZOO programs are not compressed when stored on a network. Fred Fish disk #70 has ARC, while ZOO is on disk #164.

Plan a downloading spree in advance. Using file capture, look over a list of available files. Local, no-charge BBSs might have the same files as the commercial networks, or perhaps your user group can make the program available on disk for only a few dollars. At full-tilt boogie with a 2400-baud modem, it takes more than an hour of downloading to fill a disk with software—plus you will spend extra time in the CLI to de-ARC and install the programs. Restrict yourself to grabbing only the "latest-and-greatest" files, instead of things you can get elsewhere for little or no cash.

5 Friendly Encounters

Here's a tip on how to connect to a friend across town. Both of you start your communications programs and turn on your modems. To convince yourself that everything is ready to go, type ATH and press Return. The modem should answer OK. One person enters ATD [the telephone number] to dial the other's number. When the other person sees RING on the screen, he or she types ATA and presses Return. Both friends should see a CONNECT message, meaning that you are now free to type to each other. (Turn on the "half-duplex" setting in your communications program to see what you are typing.) To exchange a file, one person selects Xmodem Send, while the other selects Xmodem Receive. Don't forget to use ARC to compress the file to save time. When you are finished with your session, turn off the modem to disconnect. □

—John Foust ►


UNREAL
VD-1
SILVER
TERRAIN
Diamond
UNREAL, is one way to describe our complete line of software and hardware tools.
Capture the REAL world of video and display REAL 24 bit color with VD-1. Let your mind roam across the REALISTIC fractal landscapes of TERRAIN. DIAMOND lets you add REAL sparkle to your digital light paintings and Turbo SILVER gives you power to create SURREALISTIC worlds of 3D animation and Ray Tracing.
From the REALISTIC to the SURREALISTIC, Impulse has the right tools. REALLY!
Impulse Inc.
Dealer alert: To buy direct call
1•800•328•0184
Circle 155 on Reader Service card.
6 1 2 • 5 6 6 • 0 2 2 1



AMIGA BASIC

IF YOU FOLLOW these Amiga Basic tips and techniques, they should help make your programming efforts more productive and, as a result, a lot more fun!

1 Fast Mouse

When using the result of function MOUSE(0) to determine the number of clicks the user has made on the left button, the manual implies the values 1, 2, or 3 should be used. In fact, because of the speed of the Amiga, especially when used with an accelerator card, Amiga Basic will rarely be able to detect these values, but it will be able to detect −1, −2, or −3 without trouble. While on the subject of the mouse, were you aware that the contents of MOUSE(1) and MOUSE(2) always reflect the current position of the pointer, even when neither button is being pressed? This feature can allow for some very creative programming.

2 Delay the Execution!

Many times it is desirable to provide a delay in program execution. In BASIC, this has traditionally been provided for with something similar to FOR x=1 TO 1000: NEXT. This is not the way to do it in Amiga Basic! Not only is it bad manners when using a multitasking computer, but it is also inconsistent, and if you later choose to compile your program with one of the available Amiga Basic compilers, the FOR/NEXT loop will no longer provide the proper timing delay because of the increased speed in execution time.

A much better idea is to use the Amiga's built-in clock. Use the following code fragment as an example:

```
delay&=TIMER: WHILE TIMER
  < delay&+seconds: WEND
```

where it is assumed you have already set "seconds" to the number of seconds you wish to delay. (Remember to include &.)

Better still, you could make this a small subprogram, and pass the number of seconds as a parameter. For example:

```
Delay 5 ' Wait five seconds
...
SUB Delay (secs%) STATIC
delay&=TIMER
WHILE TIMER < delay&+secs%:
  WEND
END SUB
```

3 Empty the Buffer, Check the Keys

When you use INKEY$ to accept keyboard input, you may find the keyboard buffer is not always empty. The result is that you end up retrieving some unexpected characters. You can insure that the buffer is cleared by including WHILE INKEY$ < > " ": WEND just prior to prompting for input. On a similar topic, you will probably want to check for key presses of some of the special-purpose keys. But which values should you check for? Easy, just run the following small program. For each key you press, it will display a graphic image and a numeric value. To check for this key press in your program, just include the numeric value in a CHR$(n) statement. For example: x$=INKEY$: IF x$=CHR$(n) THEN ...

```
GetKey:
x$=INKEY$
IF x$=" " THEN GetKey
PRINT x$; " "; ASC(x$)
GOTO GetKey
```

Use CTRL-C or the STOP menu item to terminate the program.

4 Take 'em to the Library

If you write programs that make use of the LIBRARY statement, you already know the pain caused by the necessary .bmap files. Where do you put them? They can go in the same directory as the program itself, or they can go in their own directory on the same disk. The former clutters up the disk, but does not require any CHDIR statements in the program. The latter is tidier, but does require a CHDIR statement in the program. The solution is to copy them to the LIBS directory of your Workbench disk. This neither clutters up your Amiga Basic disk, nor requires a CHDIR statement in the program. Just remember to copy the data files, and not the .info files. (Some .bmap files are already available in the Basic Demos drawer of your Extras disk, but if you wish, you can use the ConvertFD program, in the same drawer, to create a full set of them. Documentation can be found on the same disk.)

5 Close the Window

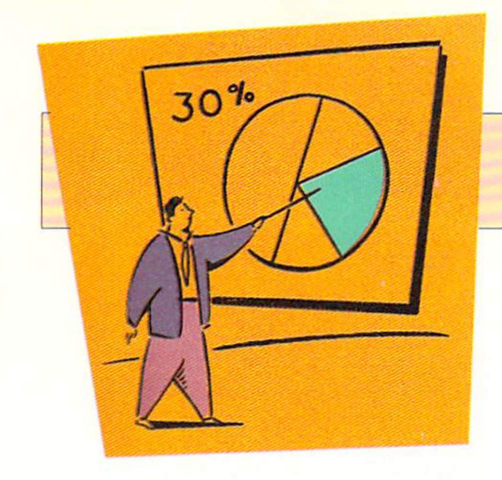
Amiga Basic allows you to define a window with a "close" gadget, but provides no ready means of detecting when it has been used. One way around this is to use the WINDOW(7) function, which usually returns a pointer to the internal window structure. If the window has already been closed, however, it returns a zero. This means that you can place your main processing within a WHILE/WEND loop of the form:

```
WHILE WINDOW(7) < > 0
  ...
  main processing
  ...
WEND
```

Just remember that you must complete each loop before WINDOW(7) is tested. It may also be appropriate to add a second "AND" test to the WHILE statement for a flag that is set when the user terminates processing from within the loop, but without using the close gadget.

6 Fast Starts

Would you like to see an "instant" start-up screen when you run your Amiga Basic programs? Are you tired of watching that first screen being drawn, oh so slowly? The solution is easy: First, set all your palettes to black and clear the screen; next, draw your start-up screen as usual (it will remain black to the user); finally, reset the palettes to their proper colors. Presto, instant start-up screen! □ ***—Bryan D. Catley*** ►



PRESENTATION GRAPHICS

YOUR AMIGA IS a powerful aid in getting the most out of the visuals that accompany your verbal presentations. Presentation Graphics vary widely in form—from 35mm slides to overhead transparencies, from prepared flip charts to handouts, and from prerecorded videotaped and filmed segments to the direct interfacing with information on a computer screen. While your choices depend on both the type of presentation best suited to your audience and the level of your own technical expertise and equipment, the following advice embodies some basic tips that everyone can benefit from in producing presentational graphics on the Amiga.

1 Avoid Visual Overkill

The first rule of thumb to follow is to keep your visual information at a minimum. Never attempt to display visually everything that will be presented verbally. The rule for 35mm slides has always been that you should be able to read all of the information clearly by holding the slide up to the light. Always use clean, readable typefaces (sans-serif fonts such as Helvetica are usually the best, especially for the body of your text). Like elements (headlines, repetitive data, comparative numerical information, and so forth) should be rendered in the same color throughout all pieces in a series, so that the audience can visually group like items even before they understand them intellectually. Repetitive graphic elements, whether drawings or photos, help to tie presentational material together, and can spice up otherwise long boring lists of cold information. For instance, a small painting in the corner of all of your data slides can keep the attention of your audience so that they will be receptive enough to retain the information you hope to communicate. For the nonartistic, numerous clip-art disks are available and offer a wide range of choices.

2 Top-Drawer Titling

When developing titling segments (see Figure 1), take advantage of multicolored graphics, perspective brushes, and all of the optional design elements that will allow your introductory message to invite the audience into the display of information that will follow. This is the place to humanize an otherwise cold, monotone visual message. You can include digitized material and ColorFonts (which will still come across effectively in hi-res when you reduce your text as a brush in your paint program—even as much as 50%).

3 Textual Clarity

With textual material (see Figure 2), the first and last rule is clarity. Glitz is not called for here, although color selection can greatly enhance the message. Choose wisely from the 4096 at your disposal. I prefer to work only in hi-res overscan, using a sharp, clean Helvetica-like Font most of the time. Text slides also work best for slide projection if they are rendered in reverse colors—meaning light on a dark background. The research tells us that words rendered in this way seem to expand to an audience's vision. The research also suggests that the best two-color combination is yellow on a dark blue background. Make your text as large as the amount of data permits.

4 Data Into Graphics

Data-translation visuals (see Figure 3), probably represent the bulk of presentational graphics. Numbers translated into pictorial data are far more effective in convincing audiences of your message than running lists of numbers. Here again, a well-planned creative approach can enhance the informational content. Learn to work with 3-D to achieve depth in your presentations—data slides and video segments created with Amiga 3-D rendering packages are enormously successful.

The sample shown in Figure 3 was rendered with Caligari, then imported into DPaint for the text and numerical call-outs. When you render data graphics (bar and pie charts of every kind) in a 3-D program, you can "fly" around until you achieve the best angle to accentuate your point. Then it can be saved as an IFF file and manipulated further in a paint program (adding text, varying colors, dithering, and so forth). Typestyles are just as important ►

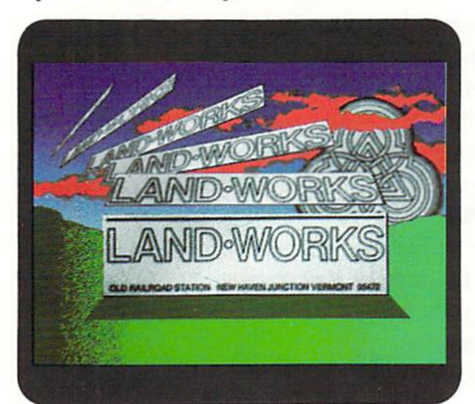
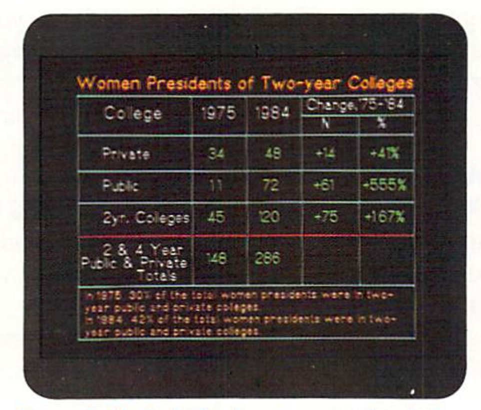


Figure 1. Use all available resources in your titling.



Women Presidents of Two-year Colleges

College	1975	1984	Change, '75-'84	
			N	%
Private	34	48	+14	+41%
Public	11	72	+61	+555%
2yr. Colleges	45	120	+75	+167%
2 & 4 Year Public & Private Totals	148	286		

In 1975 30% of the total women presidents were in two-year public and private colleges.
In 1984 42% of the total women presidents were in two-year public and private colleges.

Figure 2. Clarity is the key to presenting text.

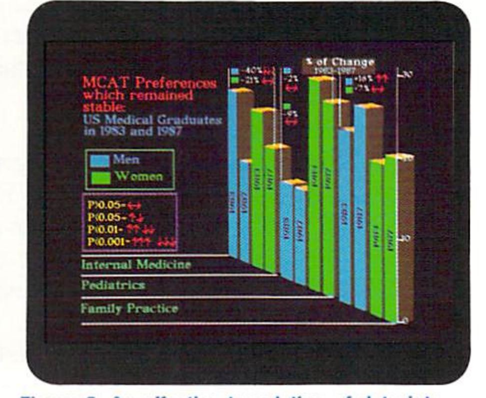


Figure 3. An effective translation of data into graphics.

SupraDrive™

Simply The Best Amiga Hard Drive.

Before you buy a hard drive, look around. Look closely. Compare speeds, but also look at Interfaces...Software...Value. We think you'll agree that SupraDrives are Simply The Best Amiga Hard Drives. Here's why ...



SUPRADRIVE HARD CARD FOR AMIGA 2000
with revolutionary new
WORDSYNC™ INTERFACE

Each SupraDrive for the A500/A2000:
Autoboots directly from FFS partition • Interface allows super smooth video, sound, etc., with no rude interruptions for hard drive access • Compatible with Bridgeboard™, RAM, digitizers, other boards • Supports MS-DOS disk partitions with Bridgeboards • Installs easily • Pre-formatted & ready to use • Includes 2 floppy disks of software & clear, thorough manual • Fine tuned assembly language driver software • Blind data transfers improve speed 3x • Knowledgeable tech support • Interfaces also available separately

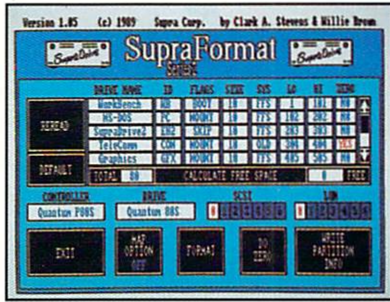
SUPRADRIVE FOR AMIGA 500
with **AMIGA BUS PASS-THROUGH**
for unlimited expansion •
OPTIONAL 2MB RAM



All Supra Products Are Made in the U.S.A.

Breakthrough Speed.

SupraDrives give you access times as low as 11 ms. and data transfer speeds of over 500K/sec. (Amiga® 2000) or 326K/sec. (Amiga 500). Features like full support of Workbench™ 1.3, the Fast File System (FFS), and multitasking make these drives *FLY*.



SupraFormat™

State-of-the-Art Interfaces.

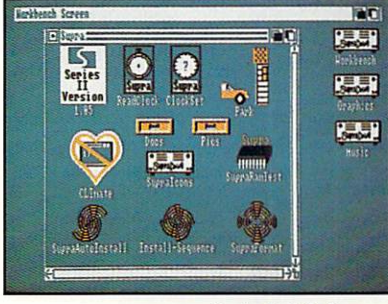
Supra's interfaces (included with every SupraDrive) give you innovative features no one else can match. The revolutionary WordSync™ Interface transfers 16 bits at once, which gives A2000 SupraDrives DMA speed without DMA hassle. The A500 interface passes the Amiga bus signal through to your other peripherals; without Amiga bus pass-through, your system is severely limited. And all Supra interfaces feature SCSI ports for easy daisy-chaining.



SupraEdit™

The Best Software.

After installing the drive, you'll be glad you have Supra's full array of powerful, easy-to-use software. SupraFormat makes formatting a breeze and lets you use up to 30 partitions and various file systems — FFS, MS-DOS®, Unix, Macintosh™, and more! SupraEdit lets you access low-level Amiga system information, and other included programs make using a hard disk fun and easy.



Included Software

Irresistible Value.

All this is available at a price you'll love. Look into it! Only Supra Corporation — an experienced company with a proven commitment to the Amiga and its potential — gives you such an attractive alternative: The SupraDrive. It's Simply The Best Amiga Hard Drive.

Ask your dealer for details, or call:



1133 Commercial Way Albany, OR 97321 503-967-9075
ORDERS: 1-800-727-8772 Circle 208 on Reader Service card.

SupraDrive, WordSync, SupraFormat, and SupraEdit are trademarks of Supra Corp. Amiga is a registered trademark and Workbench is a trademark of Commodore-Amiga, Inc. MS-DOS is a registered trademark of Microsoft Corp. Macintosh is a trademark of Apple Computer.

here as they are in textual pieces. Choose Fonts that do not interfere with the clarity of the data.

5 Raw Materials

While there are many good programs that handle the titling, text, and data-translation requirements described in Tips # 2, 3, and 4 above, these are some of the ones I use in my own work:

- Broadscast Titler (Invision Technology)—video titling
- Caligari (Octree)—3-D rendering and animation
- DeluxePaint III (Electronic Arts)—paint and animation
- Express Paint 3.0 (PAR / Brown-Wagh)—paint
- Kara Fonts Headlines (Kara)—titles
- Kara Fonts Subheads (Kara)—for 50% reduced text
- Video Effects 3D (Invision Technology)—for slick effects screens
- Video Titler (Aegis)—video titling
- Zuma Fonts (Zuma / Brown-Wagh)—text and titles

6 Asides on Slides

For some time now the Polaroid Palette (Polaroid) / Imprint (Liquid Light) combination has been handling 35mm-slide making that is more than adequate for most presentational needs. There are some things you should know, however, about the interface and the software. The first is that when given the option to turn the "Raster Scan" on or off, you should definitely turn it off. Some scan lines will show up on your slide, but the piece will be sharper and clearer, allowing you to use smaller fonts when the need arises. Be aware, also, that if you have upgraded from Imprint 2.0 to 3.0, you will have to readjust the focus on your system. In addition, you will need to install an RCA 75-ohm terminator plug (available from most electronics stores) in the Video Out at the back of the Palette. Also, be aware that the new software comes with a screen setting that must be readjusted in Preferences; if you don't, your slides will be far off the mark. Simply use the screen settings that you meticulously set in 2.0 as a guide. Stay at least five scan lines away from the borders if your camera has a magnification lens.

7 Don't Underrate the Overheads

Overhead transparencies work best when used with smaller audiences (no more than fifty) in a lighted room. What differentiates them from slides is that the technique of presentation is meant to be more conversational. With overheads, eye-to-eye debates between the presenter and members of the audience are encouraged by the medium itself. Even more interactive techniques are possible, as well, including progressive disclosure (revealing information a section at a time), using a pointer device to call attention to selected areas of information, and writing on an overlay taped to the transparency. As with slides, do not overload a transparency with too much data—pace your presentation by using several in succession.

If you already have the information stored on a disk for a 35mm-slide format, use your paint program to make the background white before printing the overhead. This will keep you from overtaxing your printer. You can print in black-and-white and then dump the material to a laser or dot-matrix printer. You can then make the actual overhead on an office copier. This procedure is particularly effective if your original work was created with a desktop-publishing program. You can also put a piece of overhead material specific to the needs of your printer into a color printer, and print the overhead directly. If your color printer has rather washed out blacks (like the Canon PJ1080A), you can print two copies and sandwich them together in a transparency frame. ■

—R. Shamms Mortier

About the Tipsters

GEOFFREY WILLIAMS (Desktop Video) is Executive Producer for Creative Business Communication and head of the Amiga Video-Graphics Guild, a non-profit group that meets monthly to provide information on, and encourage the use of, the Amiga as a video and graphics machine.

DENNY ATKIN (Word Processing) has been a writer, reviewer, and technical editor on several Amiga publications. Freelance writing and desktop publishing, newspaper work, and a Master's thesis have given him plenty of word-processing experience.

LOREN LOVHAUG (Productivity) is a frequent contributor to Amiga and C-64/128 publications, and often reviews productivity software for AmigaWorld*'s Reviews section. He is also a SYSOP on both the Quantum Link and GEnie telecommunications networks.*

JOHN FOUST (Telecommunications) is certainly no stranger to the telecommunications networks and Amiga bulletin-board scene. He currently maintains the Syndesis section in CompuServe's Amiga Vendor support forum, and he is a former co-SYSOP of American PeopleLink's Amiga Zone.

BRYAN D. CATLEY (Amiga Basic) is a professional software engineer with 20 years' experience with IBM mainframes and a little less with Amigas. He has followed BASIC throughout its many incarnations over the past two decades.

R. SHAMMS MORTIER (Presentation Graphics) manages the Graphics Service of the University of Vermont, where his responsibilities include design and production of instructional material. Dr. Mortier teachers creativity/transpersonal psychology at Burlington College and graphic design at UVM. The Amiga also plays a big part in his home business venture, Eyeful Tower Communications.

You can write to any of these authors c/o AmigaWorld, *Editorial Dept., 80 Elm St., Peterborough, NH 03458.*





Digitizing Dilemma

Tired of shopping in the dark for video digitizers? This comparative review will shed some light on which one is right for you.

EVER TRY TO record a movie with oil paints? Chances are the results would be a blurry mess. You can expect the same disappointment if you use the wrong type of video digitizer for your computer art. Like oil paints, slow-scan digitizers require a motionless object and several seconds to capture the picture. Real-time digitizers, however, capture the incoming image in a fraction of a second, effectively freezing the object in motion. For grabbing graphics from an active source (a TV, VCR, or live camera), use a real-time digitizer. If your application requires you to convert only motionless images (photographs, drawings, line art, and so on) to the screen, save some money and buy a slow-scan digitizer. To help you decide which of the available units to buy, I put each through its paces. For a head-to-head comparision of their output, see the sidebar "Suitable for Framing."

DIGI-VIEW GOLD

The only slow-scan digitizer for the Amiga, Digi-View Gold (NewTek, $199.95) is a box about the size of a deck of cards that plugs into an A500's or A2000's parallel port (A1000s need a gender changer) and accepts a composite video signal through a single RCA-style connector. The typical Digi-View setup also includes a black-and-white camera and a lighted copy stand (NewTek's retails for $74.95). If you already own a color camcorder, you can save some money; Digi-View works fine with most models.

The accompanying software lets you specify any standard screen resolution, the number of colors Digi-View uses (including 64-color Extra_Halfbrite and 4096-color Hold-and-Modify (HAM) modes), plus a true overscan (borderless) display. Digi-View produces exceptionally fine black-and-white pictures, but the results are even more impressive in color.

When working in color, Digi-View Gold digitizes an object three times, once each through the supplied red, green, and blue filters. From these three monochrome images, the software creates an extremely accurate color picture. Digi-View's 4096-color HAM images equal, and some- ►

By Louis R. Wallace

ILLUSTRATED BY PAUL YALOWITZ

times surpass, those made with the more expensive real-time digitizers.

If you do not need to capture images in motion, but only to transfer pictures and drawings or still objects to the Amiga, Digi-View Gold does an excellent job at a very reasonable price.

PERFECT VISION

Somewhat larger than a paperback book, Perfect Vision (SunRize Industries, $249.95) is a real-time digitizer that connects to the parallel port. (You provide the cable.) The unit comes with a power supply, rather than drawing on the Amiga's internal power.

All images captured with Perfect Vision are low resolution (320 pixels wide). It does support interlaced mode, which doubles the vertical resolution from 200 to 400 lines. You can choose among color modes: 32-color, HAM, or a 16-shade gray scale.

Perfect Vision does a fairly good job capturing moving images as black-and-white pictures. Lo-res images digitize in 1/60 of a second; interlaced images take 1/30 of a second. The software's CYCLE option constantly digitizes the incoming images, allowing you to see what is happening and what your black-and-white picture will look like. Click an on-screen button to select the frame you want to keep. If you cannot decide, the program lets you record a continuous sequence of frames in memory, then store them to disk. You can select the ones you want, or use the whole sequence in an animation.

When you want to digitize in color, Perfect Vision ceases to be a real-time digitizer. Like Digi-View, it requires you to digitize the same image three times through color filters, then it combines them to create a color picture. If you are using a video camera, you must keep your subject totally still, or the resulting color picture will be poor. You can also use a copy stand for digitizing pictures and photographs. A drawback to the filter technique is that the pictures cannot come directly from a canned video source (VCR or TV), because you cannot place filters in the line to separate the color.

As a solution, SunRize Industries offers its Color Splitter ($99.95), which accepts a color video signal from any source (color camera, VCR, and so on) and automatically separates it into its RGB components, feeding each to the digitizer. The color splitter works best with a VCR that has a good pause feature. Pause on the scene you want to digitize, then capture the three pictures needed by flipping a switch on the splitter (the latest Perfect Vision software has an Auto feature to do the switching).

Perfect Vision is not perfect. While it does grab a decent black-and-white image in real time, its color pictures are not as easy to produce, nor are they of as high a quality as Digi-View's. Other drawbacks to Perfect Vision are its failure to support high-resolution displays and its inability to support high speed; it does not work with the A2500 or a 68020-accelerated A2000. (In this case, switch to 68000 mode.) Nevertheless, Perfect Vision does offer real-time digitizing at a reasonable price.

LIVE!

The first Amiga digitizer, LIVE! (A-Squared, $450) comes in models for all three machines. I tested the A2000 version—a board designed for one of the internal 100-pin slots. A500 and A1000 models attach to the expansion bus. The four BNC-type connectors on the back of the card allow up to two cameras or other video sources to be connected at the same time.

A real-time digitizer, LIVE! captures simple color images in 1/12 of a second, black-and-white pictures a little faster, and HAM images somewhat slower. It supports lo-res, interlaced, and overscan screens. The HAM images LIVE! generated were not as good as those produced by FrameGrabber or VD-1. The simple-color and black-and-white mode pictures were reasonably good, but FrameGrabber's were better. If clear, photographic-quality, digitized images are what you need, I cannot recommend LIVE!.

The digitizer does have a few unique features that make it interesting to those with specialized needs. LIVE! is the only digitizer that accepts input from two video cameras simultaneously and to use the mouse for color control instead of a standard palette requester. In addition, it lets you capture a sequence of images, save them to disk, then play them as an animation using the supplied PLAYRIFF utility.

FRAMEGRABBER

A versatile real-time digitizer, FrameGrabber (Progressive Peripherals & Software, $699) is about the size of a textbook (not including the power supply). You connect it to the parallel port and the RGBA monitor connector. It supports lo-res, hi-res, interlace, and overscan (lo-res only) in black-and-white and 2, 4, 8, 16, 32, 64, or 4096 colors.

While capture times are fast (1/60 of a second for normal screens; 1/30 for interlace), FrameGrabber takes several seconds to transfer the image from its internal RAM buffer to the Amiga. More important is the quality of FrameGrabber's captured images; you will not be disappointed. It produces high-quality images consistently, from the simplest black-and-white to full overscan HAM pictures.

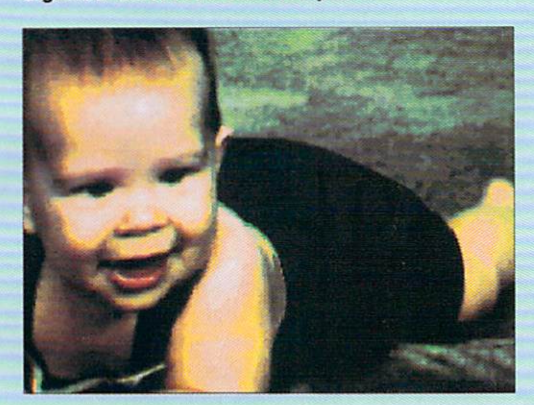
Beyond merely selecting the display mode and capturing the images, FrameGrabber's easy-to-use software offers several powerful options. For example, once a picture has been captured, you can save the entire image to disk or save only part of it as a brush for use in a paint program. If you want to digitize photographs or pre-printed material, the software lets you capture separate red, green, and blue images using filters (not provided) and a black-and-white camera, then it combines them into a finished picture. One of my favorite features was the time-lapse option, which captures images from one second to one hundred hours apart. FrameGrabber can compress these images in Anim format. ►

Suitable for Framing

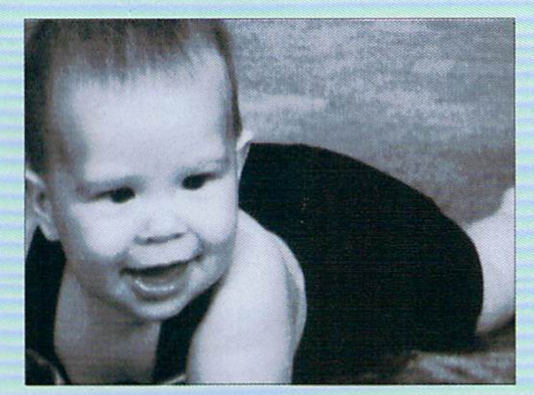
THE PICTURES shown here indicate the relative merits of each digitizer. I digitized a scene from a commercially recorded VHS tape of *Ghoulies* (Taryn Productions Inc., distributed by Empire Pictures Inc.) using Perfect Vision, LIVE!, FrameGrabber, and VD-1. If you look closely, I think you will agree that VD-1 is just a bit better than FrameGrabber. Using the same lighting and filters with Panasonic's WV-1410 camera, I digitized a photograph to constrast the slow-scan abilities of Digi-View Gold and Perfect Vision.

—LRW

Digi-View Gold: HAM 320×400 pixels.



Perfect Vision: HAM 320×400 pixels.



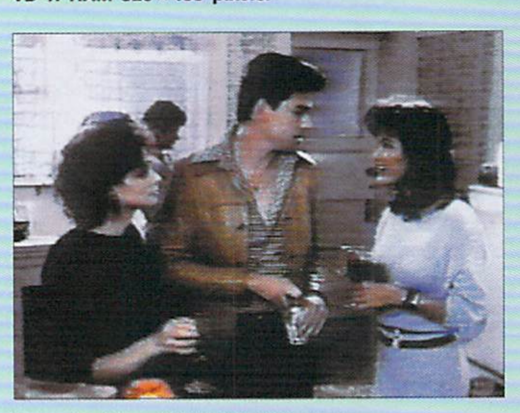
Digi-View Gold: 640×400 pixels.



Perfect Vision: 320×400 pixels.



VD-1: HAM 320×400 pixels.



FrameGrabber: HAM 320×400 pixels.



LIVE!: HAM 320×400 pixels.



Perfect Vision: HAM 320×400 pixels.

To switch between the frozen digitized image and the incoming video, press the space bar. When working with a camera, you can focus it without switching the input to a composite monitor, as Digi-View and Perfect Vision require. You also have the option of displaying your images over the entire screen or just over one quarter of it.

Progressive Peripherals hopes to make a good thing better with its forthcoming FrameGrabber 256, which promises to display up to 16 images simultaneously in a 256-shade gray scale. The new unit should also be able to digitize still images in 16.7 million colors.

Even in its present state, FrameGrabber is hard to beat. It's a good combination of hardware and software that produces great results.

VD-1

VD-1 (Impulse Inc., $1000) heats up the competition. Connecting to the parallel port of the Amiga, this real-time digitizer is a large box (about 14×14×2 inches) with an internal power supply. You connect the video source to VD-1, then string a cable to a composite NTSC-compatible monitor, where you can view the image directly.

VD-1 is somewhat of an enigma because its only documentation is a small Read_Me file on disk that discusses the latest changes to the software. Impulse does offer a toll-free customer service line. While a desirable service, it operates only during business hours. A manual would be much appreciated for answering evening and weekend questions.

The software is easy to master, however, so you should not have many questions. To capture a screen, just press the space bar. The program freezes the image on the composite monitor to an absolutely perfect picture, then stores it in VD-1's internal 24-bit frame buffer. You must instruct the software to send it to the Amiga by pressing the Return key. The program will then convert the image to the only resolution VD-1 supports, 320×400 HAM.

Once the image is displayed on the Amiga screen, you can refine it with the Cleanup option. You can also change the amount of red, green, and blue in the picture, and vary the brightness and the degree of dithering used in mixing the colors. Unlike using other digitizers, you need not recapture the image to see the results of your adjustments. Because the digitized image resides in the VD-1's frame buffer, just press Return to transfer the picture to the Amiga with your new settings and see the results.

Like FrameGrabber, VD-1 will perform time-lapse photography. Instead of creating an animation from the files, however, it saves them to disk as a sequence of individual pictures that you can later combine in an animation.

In addition to the main digitizing program (Digi), Impulse supplies a painting program (called Diamond). Although it works in all graphics modes, it is intended primarily for use in HAM mode. With Diamond, you can convert your VD-1 digitized images to other display formats (with some loss of quality) or touch up your pictures.

Of all the units tested, VD-1 generated the best images of animated subjects from a videotape or a camera. It excelled at digitizing from a VCR, eliminating such problems as capturing the picture when only part of the frame is visible.

Ring it Up

For my money, the best buys are Digi-View Gold and FrameGrabber. For slow-scan digitizing, Digi-View is the standard to beat. For real-time work, greater versatility at a lower price provides FrameGrabber with a slight edge over VD-1. If you work only with 320×400 HAM screens, however, VD-1 is worth the extra money.

When you bring your new toy home from the store, keep in mind that even the best digitizer cannot promise perfect results. You must use good techniques. For camera work, make sure you have the proper lighting. A poorly illuminated subject or scene will digitize poorly. To get the best black-and-white results, you should use a high-resolution, black-and-white camera, such as the Panasonic WV-1410 ($300). If a VCR is providing the pictures, use good-quality, first-generation recording whenever possible. ■

Louis R. Wallace is a contributing editor to AmigaWorld. *Write to him c/o* AmigaWorld, *Editorial Dept., 80 Elm St., Peterborough, NH 03458.*

Manufacturers' Addresses

A-Squared Distributions
6114 La Salle Ave.
Suite 326
Oakland, CA 94611
415/339-0339

Impulse Inc.
6870 Shingle Creek Pkwy.
Minneapolis, MN 55430
612/566-0221

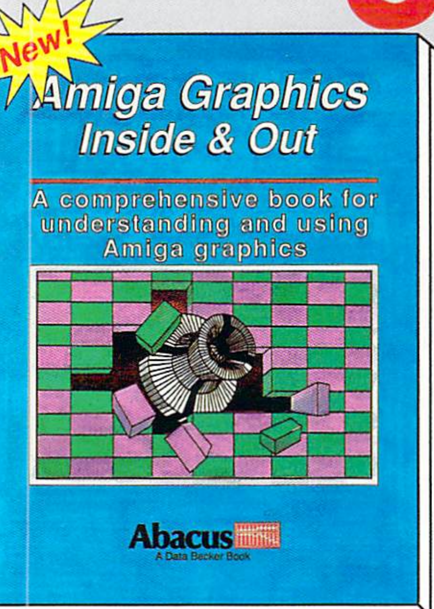
NewTek
115 W. Crane St.
Topeka, KS 66603
913/354-1146
800/843-8934

Progressive Peripherals & Software
464 Kalamath St.
Denver, CO 80204
303/825-4144

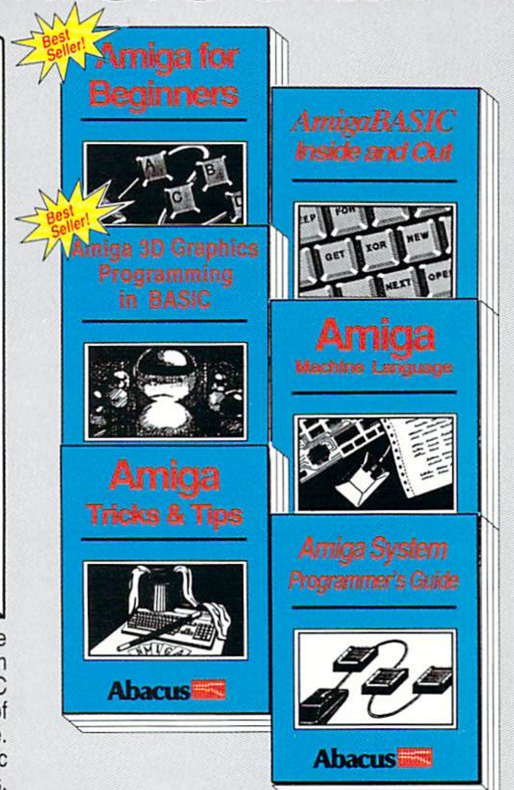
SunRize Industries
3801 Old College Rd.
Bryan, TX 77801
409/846-1311

Amiga Information

more than 4000+ pages......



raphics - Inside & Out-an in depth treatment of the miga's super graphic features and functions. Learn ow to access these graphic features from AmigaBASIC r C. Learn graphic programming in C with examples of oints, lines, rectangles, polygons, colors and more. Contains a complete description of the Amiga graphic ystem-View, ViewPort, RasPort, bitmaps, screens, vindows and more.
SBN 1-55755-052-2 610pp $34.95



Amiga For Beginners*-the first volume in our Amiga series, introduces you to Intuition (Amiga's graphic interface), the mouse, windows, the CLI, and AmigaBASIC. Explains every practical aspect of the Amiga in plain English.
ISBN 1-55755-021-2 178pp *Covers Workbench 1.3 Info* **$16.95**

BASIC Inside & Out -THE definitive step-by-step guide to programming the Amiga in BASIC. Every AmigaBASIC command is fully described and detailed. Topics include charts, windows, pulldown menus, files, mouse and speech commands.
ISBN 0-916439-87-9 548pp *Covers Workbench 1.3 Info* **$24.95**

3-D Graphic Programming in BASIC-shows you how to use the powerful graphic capabilities of the Amiga. Details the techiniques and algorithms for writing three-dimensional graphic programs: ray tracing in all resolutions, light sources and shading, saving graphics in IFF format and more.
ISBN 1-55755-044-1 360pp **$19.95**

Machine Language -is a comprehensive introduction to 68000 assembler machine language programming and is THE practical guide for learning to program the Amiga in ultra-fast ML. Also covers 68000 processor address modes and architecture, speech and sound from ML and much more.
ISBN 1-55755-025-5 264pp **$19.95**

Tricks & Tips-follows our tradition of other Tricks and Tips books for CBM users. Presents dozens of tips on accessing libraries from BASIC, custom character sets, AmigaDOS, sound, important 68000 memory locations, and much more!
ISBN 0-916439-88-7 342pp **$19.95**

System Programmer's Guide-comprehensive guide to what goes on inside the Amiga in a single volume. Only a few of the many subjects covered include the EXEC structure, I/O requests, interrupts and resource managment, multitasking functions and much, much more.
ISBN 1-55755-034-4 442pp **$34.95**

AmigaDOS Inside & Out-covers the insides of AmigaDOS from the internal design up to practical applications. Includes detailed reference section, tasks and handling, DOS editors ED and EDIT, how to create and use script files, multitasking, and much more.
ISBN 1-55755-041-7 274pp *Covers Workbench 1.3 Info* **$19.95**

Disk Drives Inside & Out-is the most in-depth reference available covering the Amiga's disk drives. Learn how to speed up data transfer, how copy protection works, computer viruses, Workbench and the CLI DOS functions, loading, saving, sequential and random file organization, more.
ISBN 1-55755-042-5 346pp **$29.95**

C for Beginners-an introduction to learning the popular C language. Explains the language elements using examples specifically geared to the Amiga. Describes C library routines, how the compiler works and more.
ISBN 1-55755-045-X 284pp **$19.95**

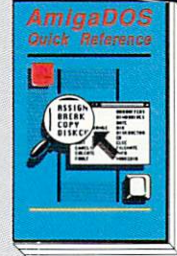
Advanced System Programmer's Guide-a follow-up volume to the internals of Amiga covering more topics including Kickstart and Workbench 1.3. Presents the conventions for system programming. Thorough explanations of accessing the facilities provided by the libraries, input and output of the Amiga and more.
ISBN 1-55755-047-6 400pp Available August **$34.95**

More Tricks & Tips-a collection of programming "quick-hitters" -easy to use techniques, hints, and suggestions for Amiga owners, learn to make programs more user-friendly using pulldown menus, sliders and tables, disable fast RAM, NewCon and Pipe devices.
ISBN 1-55755-051-4 218 pp *Covers Workbench 1.3 Info* **$19.95**

Amiga C for Advanced Programmers-contains a wealth of information from the pros: how compliers, assemblers and linkers work, designing and programming user friendly interfaces using Intuition, combining assembly language and C codes, and more. Includes complete source code for a C based text editor.
ISBN 1-55755-046--8 650pp **$34.95**

More Books Coming Soon!

New Price!



AmigaDOS Quick Reference*
-an easy-to-use reference tool for beginners and advanced programmers alike. You can quickly find commands for your Amiga by using the three handy indexes designed with the user in mind. All commands are in alphabetical order for easy reference.
ISBN 1-55755-049-2 **$9.95**
Covers Workbench 1.3 info

Save Time and Money!
-Optional program disks are available for many of our Amiga reference books. All programs listed in the books are on each respective disk and will save you countless hours of typing!
(*Diskette Not Available for these Titles) **$14.95**

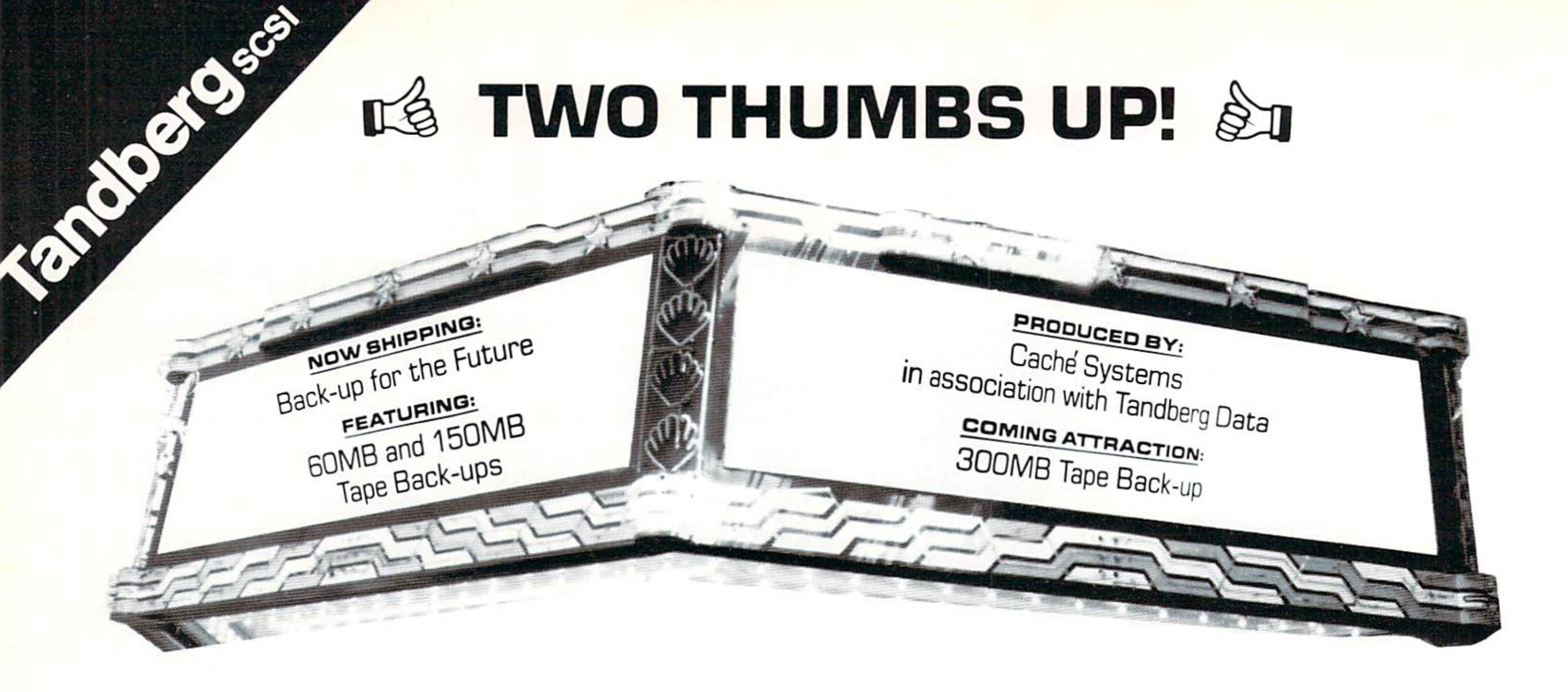
Circle 124 on Reader Service card.



Dept. L9, 5370 52nd Street SE
Grand Rapids, MI 49512
(616) 698-0330

Add $4.00 Shipping and Handling per Order
Foreign Orders add $12.00 per item
Michigan Residents add 4% sales tax

See your local dealer or Order Toll Free 1-800-451-4319



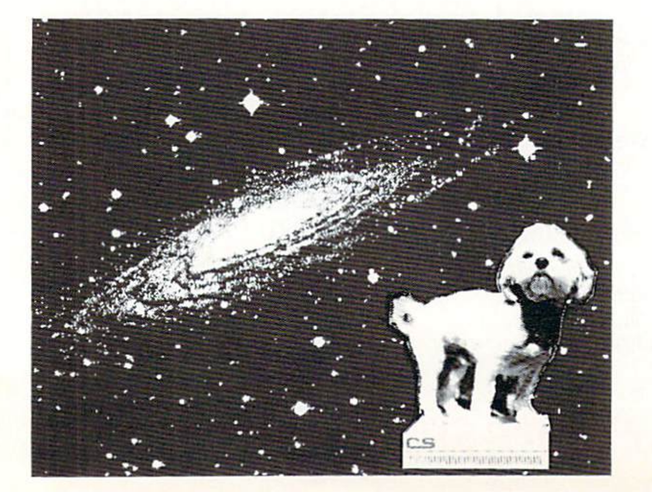
Tandberg Data, a subsidiary of Siemens Corporation, has maintained its technological leadership since introducing the first 1/4" cartridge tape in 1973. Now Caché Systems brings that technology to your Amiga Computer. Our tape subsystems include the following features:

- Fast 5.4MB per minute back-up
- Embedded SCSI controller
- Ability to read lower capacity tapes
- Mirror image or file by file back-up and restore
- Extensive internal diagnostics
- Full one year warranty
- Optional extended warranty

Of course, Caché Systems also carries a complete line of Hard Disc Subsystems with capacities from 20MB to 660MB. It's no wonder we've left the competition behind.



For more information, contact your local dealer or give us a call for a dealer in your area.





CACHÉ SYSTEMS LTD. L.P.

Your Storage Solution

917-A Disc Drive
Scotts Valley, California 95066

(800) 525-6465 (408) 438-7595

Circle 71 on Reader Service card.

Quick Change Artist



Learn how to transform your Amiga files to IBM, Macintosh, Atari, or C64/128 formats, and back again.

BY TIM WALSH

AMIGAS ARE FOREIGNERS in the PC world, unable to communicate without a good translator. If you want to use files from an IBM, Macintosh, Atari, or C-64 or 128 on your Amiga (or vice versa) you have two choices. You could invest in an emulator (a hardware and software combination that lets the Amiga run programs designed for other computers), such as Commodore's Bridgeboards for the IBM PC/XT (A2088: $699.95) and PC/AT (A2286: $1599) or ReadySoft's A-Max ($199.95) for the Mac. Not only is this alternative expensive, it solves the file-transfer problem for only one type of machine at a time. A more accessible solution is to use low-level file-conversion methods and programs to transfer text or graphics among your Amiga and other computers at home or the office. With the following simple telecommunications techniques and file-conversion programs, you can translate data files, such as ASCII (American Standard Code for Information Interchange, the standard set of numeric equivalents for keyboard characters and control codes) text and IFF graphics from AmigaDOS disks to other formats and back again.

Be warned: Like slang phrases, some aspects of a file (such as program-specific codes) may be garbled in translation. Often the new document file on the destination disk will need minor cleaning up—insertion or removal of hard returns, deletion of foreign characters, and so on. Data files from spreadsheets and databases create special problems. Unless your program has a save-as-ASCII option, you will have to use program-specific conversion techniques, because the data must adhere to the format of the program as well as the disk.

WIRE SERVICE

If you have a modem and telecommunications software, you can save the cost of a special conversion program and just use your on-line expertise to transfer files. My favorite technique relies ►

ILLUSTRATED BY MICHAEL KLEIN

on a computer bulletin board system (BBS). You can upload ASCII files to a BBS from your Amiga, then download them to another computer system later. Always be sure to specify text or binary file types in your telecommunications program. While you can download IFF graphics and machine language object code to another machine, you will have to run them through a conversion program on the new machine before the files are compatible with the system and can be manipulated. A more direct route is to bypass the BBS and call another computer; just make sure the destination system can auto-answer or someone is available to man the software. Between Amigas, you can send anything—text, graphics, programs, and so on. Between unlike systems, the same restrictions apply as for BBS transfers.

A variation of this technique is the null-modem process, in which you run a phone wire from one computer's modem to another's and use a simple file-transfer program. Currently, On-Line Platinum (Micro-Systems Software, $99.95) and A-Talk III (Oxxi, $99) both support null-modem transfers. The null-modem method is easy to use, but is intended for ASCII files; other file formats must be converted before being compatible.

A rather obscure technique involves the Amiga 1020 5¼-inch drive, which allows all Amiga models to read MS-DOS formatted disks. Because the A1020 uses a standard MFM (Modulated Frequency Modulation) data-recording process shared by MS-DOS compatible disk drives, the Amiga operating system can read and write ASCII files from and to MS-DOS formatted 5¼-inch disks. The 1.3 Extras disk offers a PCUtil drawer containing PCCopy, ToPCCopy and PCFormat commands for the A1020. Simply double click the appropriate icon: PCCopy to copy files from MS-DOS to AmigaDOS, ToPCCopy to transfer from AmigaDOS to MS-DOS, PCFormat to format a 5¼-inch MS-DOS disk. While no longer manufactured, the A1020 is still available by back order through some mail-order firms that carry Amiga hardware.

Filtered Through

For the modemless, several commercial programs that will convert data files to other system formats are available. Central Coast Software makes two of the handiest transfer packages (and is working on a third for Mac formats). DOS-2-DOS ($55) converts binary and ASCII files from the Amiga to MS-DOS or GEM (Atari ST) formats and vice versa. Just put the DOS-2-DOS disk in one drive, and the source disk in another, double click the DOS-2-DOS icons, and you are in business. Both 3½-inch and 5¼-inch MS-DOS disks are supported, although you will need a 5¼-inch external drive for the latter.

The intelligently-designed interface makes DOS-2-DOS easy to use. Basically, it's simply a matter of selecting the easy-to-follow menu prompts and letting the program do its work. A 16-page documentation booklet complements the package; type ? for on-line help.

About the only limitations of DOS-2-DOS is that it does not support MS-DOS to MS-DOS disk copying on the Amiga, nor will it copy the quad-density (80 track-per-inch 3½-inch disks) format used by IBM PC/AT computers. Regardless, it is probably the most useful program that you can get for reliable, trouble-free PC-to-Amiga conversions and the only commercial program for Atari ST conversions.

Disk-2-Disk ($49.95) permits the A1020 or compatible external 5¼-inch drives to read C-64 and C-128 sequential-text and ASCII files from a Commodore 1541 or Commodore 1571-formatted disk, then save them to an Amiga disk, and the reverse. To help convert BASIC programs, the included utility, BASDIF, flags the lines of Commodore BASIC that are incompatible with Amiga Basic. The program works wonderfully. I transferred files rapidly in either direction with a minimum of cleaning up. My biggest gripe is that it does not work with file transfers from 3½-inch Commodore 1581-formatted disks.

Less helpful was Fruit 2 Friend (Top Disk Software, $59.95). Designed to let the A1020 drive read Apple 5¼-inch disks, Fruit 2 Friend was very unreliable when first tested. Its only documentation is a Read_Me file. After a long series of false starts and an even longer series of telephone calls to technical support, I received a modified copy of the program that actually works. The company blamed the problems on a lack of error trapping in determining the number of tracks used by Apple ProDOS disks, and promises the bugs will be fixed in the next release.

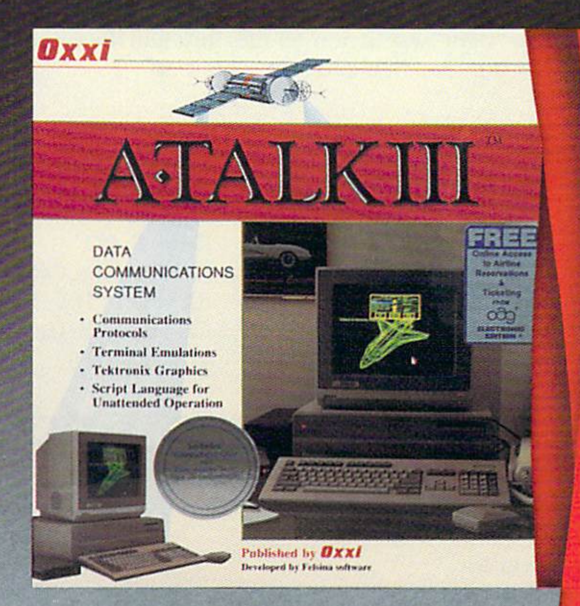
International Symbols

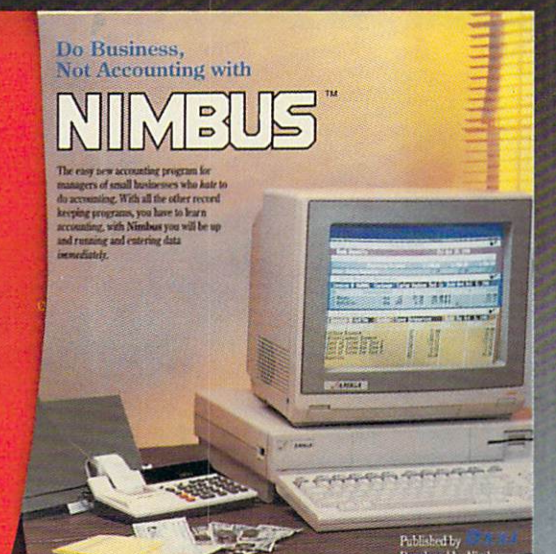
If you have access to an MS-DOS machine or Bridgeboard and need to transfer graphics, two IBM-to-Amiga transfer programs could come in handy: Graphics Transformer (previously known as Reflection, from IMSI, $99) and HiJaak (Inset Systems, $149). Hijaak also lets you transfer IFF graphics to Mac format and vice versa.

In addition, public-domain software distributors, networks (Genie, CompuServe, PeopleLink and BIX), and bulletin'boards offer a wealth of graphics conversion programs for the Amiga. Chiron Concepts offers disks CC-304 (Graphics Utilities #1), which provides Macpaint-to-IFF conversion utilities; CC-628 (Graphics Utilities #2), which provides 64 Converter to translate C-64 Doodle, Koala and PrintShop graphics into IFF format; and CC-630 (GIF Pictures), which offers GIF (Graphics Interchange Format) to let you share graphic screens among IBMs, Atari STs, Macintoshes, and Amigas. Similarly, MacView (Dev-Ware DevDisk 0014) reads MacPaint files and converts them to Amiga IFF. The Fred Fish collection offers MacFont (disk #138) for converting Macintosh ►

THIS SEASON'S M.V.P.s*

**(Most Valuable Programs)*





A·TALK III™

Ahead of the Pack

A-Talk III, the first communications program for the Amiga Computer™ to bring you an ARexx language interface now adds support of ASDG's new multi-serial port cards for the Amiga 2000™. With A-Talk III and ASDG's multi-serial cards you can now set up a multi-line BBS. A-Talk III is a professional program maintained by professionals.

Standard A-Talk III features include:

- Advanced Script Language with over 50 commands, interactive commands, and automatic generation of logon Scripts.
- ARexx Language Interface.
- Over 9 protocols including: XMODEM, YMODEM-g, Kermit and WXMODEM and ZMODEM resume.
- Global setting screen for setting up parameters for host systems.
- Support for over 10 modems including Hayes™, HST and Telebit.
- Busy signal detection.
- System Clipboard support with Cut, Copy and Paste.
- International Fonts and Keyboard Support.
- Terminal emulations including: VT100, VT52, H19, ANSI, and Tektronix 4010/4010, IBM PC ANSI Color Graphics.
- Overscan in NTSC and PAL

Requires 512K, 1 Meg of Memory Recommended

List Price: $99 US

Critics' Praise:

"More file transfer, display and communications options than you can shake a stick at." — *INFO Magazine*

"One of the most powerful communications packages on the market" — *Amiga World*

"I would wholeheartedly recommend your using A-Talk (III)" — *Amiga Sentry*

"If you need a communications package that does it all" — *Amazing Computing*

"A-Talk, the outstanding commercial program from America" — *Your Amiga (UK*

"A-Talk III sets new standards" — *Amiga Markt & Tech*

"A sportscar disguised as a Volkwagen" — *Dator Maga*

"A-Talk III is the program of choice" —*Amiga G*

NIMBUS™

Tackle Business, Not Accounting

Nimbus simplifies the accounting process so you can get on with your business. Accounts are kept on a cash basis, automatically transforming your check book register into an Income Statement and Balance Sheet. Setting up Nimbus is as easy as entering your company name, address and an opening account balance. Forget debits and credits, Nimbus disperses amounts to proper accounts as you write checks and create invoices. Customers and vendors are kept track of by name not an assigned number. The built-in Chart of Accounts can be used as is, or edited to suit your particular requirements.

Standard Nimbus features include:

- Fully integrated General Ledger, Sales/Accounts Receivable, Purchases/Accounts Payable
- Standard reports including aging report available at any time
- Logically progressive Mini-menus guide you through the data entry process
- Daily, weekly, or monthly sales and expense reports
- Separate Customer Statements
- Capsule statement available at bottom of each invoice if desired
- Utilizes Hard Disk and separate Data Disk for unlimited invoicing and payables.
- Plain paper or pre-printed Invoices and Statements

Requires 512K, 1 Meg of Memory Recommended

List Price: $159 US

Both Now Available from your Amiga Software Dealer

Dealers call: American Software, Comp Rehend, Micro-Pace, Soft-Kat, Southern Technologies or Triangle Electronics.



Oxxi inc.

P.O. Box 90309, Long Beach, CA 90809
(213) 427-1227

Circle 75 on Reader Service card.

fonts to Amiga fonts; MSDOS (disk #158), which lists MS-DOS and Atari ST format files and saves them to the RAM disk; and PcView (disk #164), which converts DeluxePaint (Electronic Arts) images created on the IBM-PC and Apple IIGS computers to IFF format.

After exploring the fertile territory of file transfers, I have discovered that plenty of excellent opportunities exist for anyone ambitious enough to develop a well-rounded conversion package. Until then, there is no "right" way to transfer files. Just find the method that suits you best and stick with it. ■

Manufacturers' Addresses

Central Coast Software
268 Bowie Dr.
Los Osos, CA 93402
805/528-4906

Chiron Conceptions
PO Box 19474
Jacksonville, FL 32245-9474

Commodore Business Machines
1200 Wilson Dr.
West Chester, PA 19380
215/436-4200

DevWare
PO Box 215
La Jolla, CA 92038-0215

Fred Fish Collection
System Eyes
Route 101A
Pennichuck Square
Merrimack, NH 03054
603/889-1234

IMSI
1299 Fourth St.
San Rafael, CA 94901

Inset Systems
71 Commerce Dr.
Brookfield, CT 06804
203/775-5866

Micro-Systems Software Inc.
12798 West Forest Hill Blvd.
Suite 202
West Palm Beach, FL 33414
407/790-0770

Oxxi Inc.
PO Box 90309
Long Beach, CA 90809
213/427-1227

ReadySoft
30 Wertheim Crt., Unit 2
Richmond Hill, Ontario
Canada L4B 1B9
416/731-4175

Top Disk Software
8 Creek Run Rd.
Newburg, NY 12550
800/628-2828, ext. 562

Call CMO Today For Amiga



PRACTICAL PERIPHERALS
2400 Baud Ext. $189

MODEMS

Anchor	
1200 Baud External	$109
2400 Baud External	149
Hayes	
Smartmodem 300	149
Smartmodem 1200	289
Smartmodem 2400	429
Practical Peripherals	
1200 Baud External	84
Supra	
SJ2400 External	139
SJ2400 Zi Internal/2000	149

MONITORS

Magnavox	
515 14" Color RGB/Composite	249
8762 14" Comp/RGB	249
NEC	
Multisync IIA	529
Sony	
1302 13" Multiscan	699
1310 13" RGB	339

VIDEO

Anakin Research	
Easyl Drawing/2000	349
Easyl Drawing/500	319
Digital Creations	
SuperGen Genlock	699
Communication Specialties	
Gen/One Genlock	699
JDK Images	
Pro Video Plus	199
Mimetics	
Amigen Genlock	149
New-Tek	
Digi-View Gold	139
Progessive Peripherals	
Pro-Gen Genlock	399
Frame Grabber	579
Sunrise Industries	
Perfect Vision	199
Elec. Color Splitter	99

AUDIO

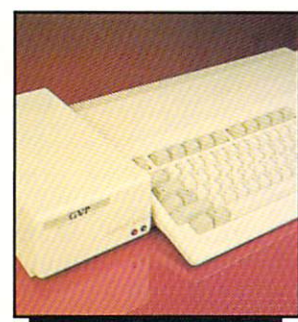
ECE Research	
ECE Midi (A1000)	51
ECE Midi (A500, A2000)	51
Mimetics	
Midi (A1000)	44
Midi (A500)	49
Pro-Studio	129
Sunrise	
Studio Magic	62

MEMORY EXPANSION

Microbotics	
Star Board II w/512K	$459
Upperdeck	45
Spirit Technology	
1.5MB Board w/OK (A1000)	289
1.5MB Board w/OK (A500)	279
1.5MB Board Populated (A1000)	989
1.5MB Board Populated (A500)	1509

DISK DRIVES

Great Valley	
Impact A2000-2/0	289
Impact A2000-2/2	749
Impact A2000-HC/30	679
Impact A2000-HC/40Q	799
Impact A2000-HC/40M	719
Impact A500-2/2 RAM	519
Impact A500-HD/40M	899



GREAT VALLEY
Impact A500-30HD
$799

Supra	
20MB (A500)	679
20MB (A2000)	629
30MB (A1000)	759
60MB (A500)	929
60MB (A2000)	859
Miniscribe	
20MB Int. 3½" 40MB	289
20MB Int. 3½" 65MS	269
C. LTD Hard Drives	
33MB (A500)	769
33MB (A2000) Internal	659
50MB (A500)	899
50MB (A2000) Internal	799
Megatronics	
Air Drive 3½" Ext.	149
Air Drive 3½" Int.	125

PRINTERS

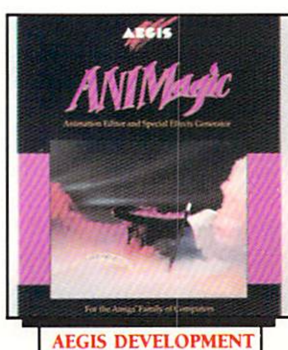
Brother	
M1109 100cps DM	179
M1709 2400cps/50 Col.	389
Canon	
Canon Bubble Jet 130	799
C.LTD.	
Laser Xpress	2199
Epson	
LX-810 200cps, 80 Col.	129
FX850 264cps, 80 Col.	Call
LQ510 180cps, 24-Pin	329
LQ850 330cps, 24-Pin	Call
Okidata	
Okimate 20 Color	129
ML182 180cps, 80 Col.	239
ML320 + 300cps, 80 Col.	379
Panasonic	
KX-P1180 192cps, 80 Col.	199
KX-P1191 280cps, 80 Col.	239
Star Micronics	
NX1000 144cps, 80 Col.	$169
NR1000 Rainbow Color	229

ACCESSORIES

Kensington	
Power Tree 10	19
Power Tree 20	29
Power Tree 50	69
Allsop	
Diskfile 10 3½"	5
Diskfile 30 3½"	9

SOFTWARE

Aegis	
Draw 2000	159
Videoscope 3D	139
Lights, Camera, Action	49
A Squared	
Live 1000	269
Live 500	299
Live 2000	349
Action Ware	
P.O.W.	24
Creature	26
Prison	26
Byte By Byte	
Sculpt 3D	69
Sculpt 4D	429
Animate 3D	105
Animate 4D	419



AEGIS DEVELOPMENT
ANIMagic
$69

Cinemaware	
Three Stooges	$ 34
Rocket Ranger	34
TV Sports	34
Discovery	
Marauder II	26
Arkanoid	20
Joe Blade	19
Hole-in-One Golf	26
Powerstyx	23
Electronic Arts	
Deluxe Music	65
Deluxe Paint III	99
Ferrari Formula	32
Epyx	
4x4 Off Road Racing	34
California Games	29
Battleship	21
Technocop	32
Death Sword	21
Mindscape	
Q-Base	21
Hostage	29
Melbourne House	
War in Middle Earth	32
Magnatic Images	
Gold of the Realm	26
!Dutchman Mine	32
MicroDeal	
International Soccer	26
Zero Gravity	19
Micro Systems	
Scribble Platinum	94
On-Line Platinum	62
The Works Platinum	179
Panther Games	
Fire Brigade	32
Psygnosis	
Chrono Quest	32
Baal	20
Captain Fizz	25
Ballistix	22
Readysoft	
Dragons Lair	38
Amax	138
Sedona Software	
Money Mentor	55
Spectrum Holobyte	
Tetris	23
Falcon	30

ASK ABOUT OUR 5 PIECE SOFTWARE BUNDLE FOR ONLY $99!



Your Source for Hardware, Software & Peripherals

In U.S.A.

800-233-8950

In Canada call: 800-233-8949
All Other Areas call: 717-327-9575 Fax call: 717-327-1217
Educational, Governmental and Corporate Organizations
Call toll-free: 1-800-221-4283
CMO, 101 Reighard Ave., Dept. B9, Williamsport, PA 17701

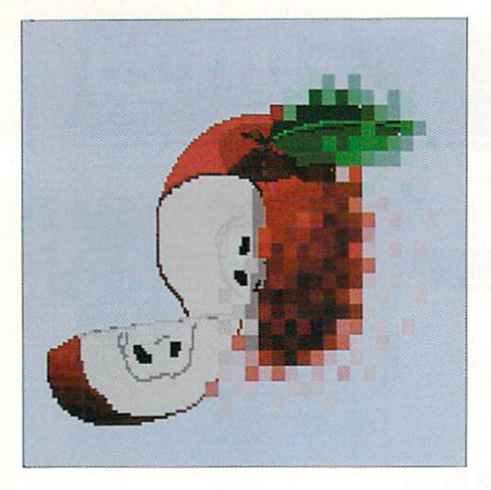
Over 400,000 SATISFIED CUSTOMERS • MAJOR CREDIT CARDS ACCEPTED



POLICY: Add 3% (minimum $7.00) shipping and handling. Larger shipments may require additional charges. Personal and company checks require 3 weeks to clear. For faster delivery, use your credit card or send cashier's check or bank money order. Credit cards are not charged until we ship. Pennsylvania and Maryland residents add appropriate sales tax. All prices are U.S.A. prices and are subject to change. All items are subject to availability. Defective software will be replaced with the same item only. Hardware will be replaced or repaired at our discretion within the terms and limits of the manufacturer's warranty. We cannot guarantee compatibility. All sales are final and returned shipments are subject to a restocking fee. We are not responsible for typographic or photographic errors.

B909

Circle 41 on Reader Service card.



HORS D'

A bigger and better selection of hints and tips, including a list of our favorites from the past year.

We hope that these tidbits from our readers will be to everyone's liking; however, some of them may not go down well. We can't test everything under every possible circumstance and system configuration, so be sure to work with backup copies of your disks when experimenting with any of these tips. If you find that one of these tips is, shall we say, unpalatable, then see if you can determine how it should have been prepared and then let us know. We hope that this will be a springboard for discussion of the best, fastest, strangest, and most useful hints and tips for everyone.

The Terminator

THIS IS A simple, cheap, effective virus checker/killer. In fact, it's free. Go into the CLI and type:

Install check df<disk drive>:

If it says that it's a normal boot block, you're O.K.; if not, you can kill it by typing:

Install df<disk drive>:

It's that easy. So far it's worked for me, but I'm not 100 percent sure that it kills all viruses. Also, you should write protect Workbench (and Kickstart if you have a 1000) whenever working with disks that you suspect are infected.

John P. Findlay
New York, NY

Screeching Starts

IN THE LAST several issues of *AmigaWorld*, I have noticed several tips describing how you can speed up your startup-sequence. What I have not seen is the use of the RUN command. I use it so that I can have both disk drives working at the same time. To make this technique even more effective, it helps to divide the files that you want to access between the two disks. I use this technique on all my disks; it is used to best effect on the startup-sequence to my Manx systems disk. Without using RUN, it takes around three minutes to finish. Using RUN, it takes about a minute and a half. Another useful tip is to copy into RAM: the commands that you use the most. Then they can be referenced by RAM:foo to further speed up the process.

Dan Drake
Pittsburg, PA

IF YOU HAVE an A500 with only one floppy drive and are tired of swapping disks to satisfy system requests, try the following. Go out and buy Workbench 1.3 (if you haven't already), make a copy of it, boot with your copy (put the master away), and run FASTMEMFIRST. Once you get up to the Workbench screen, open the CLI and type:

```
copy df0: ram: all
assign sys: ram:
```

then assign everything to RAM:

```
assign c:        sys:c
assign libs:     sys:libs
assign system:   sys:system
assign s:        sys:s
assign devs:     sys:devs
assign fonts:    sys:fonts
assign 1:        sys:1
```

Now you can load whatever you want without that annoying "Please insert Workbench" request. Note: You must have at least 1.5MB RAM to do this.

Wolf Noble
Canoga Park, CA

HERE IS A simple program I wrote using ED. It is especially useful to those of us with a single-drive sytem. It is good for doing work with the CLI, on disks other than the one you booted up with. It avoids constant disk swapping. EXECUTE it to use it.

```
Makedir Ram:c
Copy c to Ram:c
Path Ram:c
Echo "Insert disk to be used in df0:
   and type <CD DF0:>"
```

This program uses much of your RAM if you only have 512K, so after you're finished with it and you want to regain your RAM space, just type Delete Ram:c all quiet.

Kenny Young
Bronx, NY

To RAD or Not to RAD

I WAS READING "Exploring AmigaDOS 1.3" in your December '88 issue [info.phile, p. 94] and an idea struck me. AmigaDOS' new ASK command would work perfectly with RAD:. Why not add a set of statements to your startup-sequence to ask whether you want to MOUNT RAD: or not. This way, if RAD: is already mounted you will not wipe it out with the FORMAT command. (I also ask if I want to install Workbench in the same fashion, eliminating CTRL-D). I recommend that if you are a very good friend of the Guru when programming, but you also like to turn your Amiga off after you are finished with it, that you add this to the end of your startup-sequence:

```
ASK "Mount RAD (Y or N return) : "
IF WARN
MOUNT RAD:
FORMAT DRIVE RAD: NAME "Re-
   coverable RAM Disk" NOICONS
```

OEUVRES

```
; COPY the files you want to RAD:
; etc.
ENDIF
ASK "Load Workbench (Y or N
  return) : "
IF WARN
LOADWB DELAY
ENDCLI >NIL:
ELSE
NEWSHELL "NEWCON:0/0/640/200/
  AmigaShell"
ENDIF
```

Stephen R.G. Fraser
Whitby, Ontario, Canada

Running Away

MANY AMIGA USERS don't seem to know about the RUN command, and end up going through strange procedures to try to do the same thing! The RUN command sets up a separate task that is independent of the CLI from which it was invoked, freeing the CLI for other uses. For example:

```
run copy "My Paper" to PRT:
run ed "My Next Paper"
dir
.info                My Paper
My Next Paper        Nothing
```

In this example, the printer is printing "My Paper" while the computer is editing "My Next Paper." There was a need to see the directory while editing the document, but since RUN was used to start ED, there is no need to exit the editor to use the CLI. After the DIR command, the ED window can be brought forward again to continue editing the document.

Moral: Multitasking is useful. Use it! The RUN command makes this much easier.

Greg Searle
Lowell, MA

Tiny Copy

SOMETIMES THE COPY command is just too big. It uses around 100K for some unknown reason, which tends to stop you from squeezing the last possible bit of space out of your RAM: disk. There is another command that performs the same function, but only uses about 1K. This is the JOIN command, which takes up a measly 1K in the C: directory. Use it as follows:

```
Join <file> as ram:<file>
```

This is a little slower than COPY, but saves lots of memory.

Greg Searle
Lowell, MA

RAM to the Rescue

HERE'S A TIP for users of multi-font word processors (such as ProWrite, excellence!, etc.) who have a one-drive system. While retrieving a file from a data disk, the word processor automatically asks for your system disk (usually your Workbench disk) every time it finds a new font in the document. If your document contains many fonts, you spend a lot of time swapping disks, because the Amiga will always stop loading to look for the new font on Workbench. In some cases, retrieving a file can take longer that typing it from scratch.

This problem can be easily overcome. If you know what file you're going to retrieve in advance, then, from Workbench, copy the file from your data disk to your RAM disk (RAM:). Load your word processor, and in the selection bar, precede your document name with "RAM:". The document will load in seconds, with no dreaded disk-swapping involved. If you are already in your word processor before loading your file, flip your window to the Workbench screen, and repeat the above steps.

Arto Oltaci
Mount-Royal, Quebec, Canada

Using an ALIAS

THE ALIAS COMMAND, one of AmigaDOS 1.3's new commands, lets you add a second (or third) name to any command (or string of commands) recognized by the AmigaDOS CLI/Shell. For those unfortunates among us who work on those "other" operating systems (like me), you'll never have to try to remember if it's "DELETE," "ERASE," "SCRATCH" or "DEL" if you include the following in the S:Shell-Startup file on your Workbench disk:

```
ALIAS DEL DELETE [ ]
ALIAS ERASE DELETE [ ]
ALIAS SCRATCH DELETE [ ]
```

ALIAS has a great deal more utility than just allowing commands to have additional names, though. The following example allows you to start any text file printing in the background from a CLI by typing "PRINT <filename>". The file will print, and you will be able to continue with your CLI/Shell commands uninterrupted:

```
ALIAS Print Run Copy [ ] PRT:
```

Typing ALIAS from the CLI/Shell will list those aliases already set up for you by CBM. Additional aliases can be added at any time from the CLI/Shell, or added permanently by using a text editor to edit the file "Shell-Startup" in the S: subdirectory.

Ted Roche
Brockton, MA ►

BIGGER CLI WINDOW

THE CLI WINDOW that opens from the Workbench often needed to be enlarged to suit my needs. However, an inspection of the CLI file using the command

type opt h CLI

revealed the following ASCII sequence near memory locations 0870–0880:

Workbench CON:0/50/640/80/new CLI Window

This sequence determines the size and location of the window. You can alter it very easily with an editor; here's how to do it with TxEd Plus. From the CLI, enter the command

CLI

adding path information as needed. Then, find the proper line by selecting the Search option within TxEd and entering:

0/50

and make the change at line 813 with:

CON: 0/0/556/400

Notice that the length of the CLI file has not been altered, so memory locations are undisturbed. (The x-coordinate 556 was chosen to allow disk icons to remain visible at the right edge of the screen.) Finally, save the new CLI as CLI1 using TxEd's Save As option. Before trying the new file CLI1, use LIST to verify that it is the same length as the CLI (no lines have been truncated, for example). A simple way to try CLI1 is to enter its name from the CLI. If you approve of the new window, delete the former CLI file and rename the new one.

Bob Anderson
Albuquerque, NM

If you have an idea you'd like to share with our readers, send it to Hors d'oeuvres, AmigaWorld *Editorial, 80 Elm St., Peterborough, NH 03458. If your idea gets published, you'll receive an* AmigaWorld *surprise gift.* ■

OLD FAVORITES

The following are some of the best hints and tips that have appeared in Hors d'oeuvres during the past year:

TITLE	ISSUE	PAGE
PC BASIC Programs on Amiga	Sept. '88	12
Cheating with Arkanoid	Nov. '88	12
2000 Genlock	Dec. '88	12
Empty File Deletion	March '89	104
BASIC Color Fades	March '89	104
Rocket Ranger Tip	April '89	88
Recoverable RAD Disk	April '89	88
Amiga Graphics to MS-DOS	May '89	84
CLI Programs from Workbench	June '89	102

GO AMIGO!™

THE WORLD'S LARGEST DISTRIBUTOR OF AMIGA™ PRODUCTS

SPECIALS... SPECIALS... SPECIALS... SPECIALS...

MONEY-BACK GUARANTEE!

Buy Any Product From:

Avante-Garde • Central Coast Software • Elan Design • Gold Disk • HiSoft • Impulse • Innovision • JDK Images • Lattice • Manx • MicroSystems Software • New Horizons • Oxxi • Right Answers Group • Soft Logik • William Hawes

Between now and September 30, 1989 and if you are dissatisfied for any reason, call for a Return Authorization and we will refund your money. No questions asked.

Freight costs not refundable. Products must be returned post paid with complete original packaging in resalable condition. Call for complete details.

My-T Mouse

Replacement Mouse for all Amiga models

Still $42!

RAM SALE!

New Low Prices on all RAM Boards!

Call!



GREAT VALLEY PRODUCTS

A2000 Hard Cards

42MB: $799 80MB: $1099
105MB: $1199

Other size/brands/models available

CAN-DO

Special Intro Offer!

$99

FEDERAL EXPRESS

ORDER BY 1 PM PST AND GET IT TOMORROW BY 3 PM.

- Software Rates: $6 for first **two** items, $3 for each additional
- Continental US Only • No CODs
- Low Hardware Rates Available
- Call for complete details

HARDWARE... HARDWARE... HARDWARE... HARDWARE

A-SQUARED
- Live – A1000 ... $259
- Live – A500 ... $345
- Live – A2000 ... Call

AMICORE
- Transvestor 2500 ... $44

ANAKIN
- Easyl – A1000 ... $369
- Easyl – A500 ... $359
- Easyl – A2000 ... $399

APPLIED VISIONS
- FutureSound (A1000) ... $144
- New! FutureSound (A500/2000) ... $95

ASDG
- Multi Port Serial Card ... Call

AVATEX
- 1200e Modem ... $85
- 1200HC Modem ... $115
- 2400 Modem ... $199

C. LTD.
- C View 1 (NTSC) ... $39
- C View 2 (C/L) ... $39
- Timesaver (A1000) ... $55

CALIFORNIA ACCESS
- CA-880 3.5" Drive ... $149

COMMUNICATION SPECIALTIES
- Gen One ... *Lowest!*

CREATIVE MICROSYSTEMS
- Processor Accelerators:
  - For A500/A2000 ... $174
  - For A1000 (New Version) ... $230
- Video Interface/RF (A500) ... Call
- Video Interface (A2000) ... Call

CSA
- Over 30 Board ... *Sale!*
- 68020 Boards ... Call
- New! Midget Racer ... *HOT!*

DIGITAL CREATIONS
- SuperGen ... Call

ECE
- MIDI – A500 ... $58
- MIDI – A1000 ... $58
- MIDI – A2000 ... $58

EXPANSION TECHNOLOGIES
- 50MB Hard Drive (A1000) ... $879
- 32MB Hard Drive (A500) ... $729
- Flash Card ... $205
- Tool Box ... *In Stock!*

GO AMIGO!
- Disk Head Cleaner ... $15
- 30 Disk Case ... $10
- ImageWriter II Cable ... Call
- Printer Cable ... $20
- Modem Cable ... $20
- Mouse Pad ... $10
- Sony Cables ... Call
- FlickerFixer Cables ... Call
- Custom Cables ... Call

GREAT VALLEY PRODUCTS
- 68030 Accelerators ... Call
- Impact SCSI/RAM ... Call
- A2000 Hard Cards ... Call
- A500 Products ... Call
- *Go Amiga is the #1 GVP Dealer*

HAITEX
- X-Specs 3D ... $97

HEWLETT-PACKARD
- New! Paintjet ... Call

HYPERTEC
- Deluxe MIDI ... $74

INKWELL
- Light Pen ... $99

KETEK
- Command Center ... *Sale!*

MAGNI
- Magni 4000 Genlock ... *In Stock!*
- Magni 4000-S ... *In Stock!*

M.A.S.T.
- Unidrive ... $144
- Twin Drive ... $269
- MiniMegs ... *Lowest!*
- Tiny Tigers ... Call

MICROBOTICS
- Starboard II (All Sizes) ... Call
- MultiFunction Module ... $75
- SCSI Module ... $103
- 8 Up (A2000) ... Call
- Hard Frame ... *In Stock!*
- Pop SIMMs ... Call
- *All RAM on Sale Now!*

MICROWAY
- Flicker Fixer ... $469
- *PAL version available!*

MIMETICS
- Amigen Genlock ... $149
- Audio Digitizer ... $85
- MIDI Int. (A500/2000) ... $45

MOTOROLA
- 68881 Co-Processors ... Call
- *Speeds from 12Mhz to 20Mhz*

NERIKI
- Neriki Genlock ... Call

OKIDATA
- Okimate 20 w/Plug n' Print ... $199
- Black Ribbon ... $6
- Color Ribbon ... $7

PACE
- Carrying Bags for A1000/500/1084 ... Call

PACIFIC PERIPHERALS
- Subsystem 500 ... $219
- Subsystem 500 w/3.5" ... $365
- Synergy Products ... Call

PANASONIC
- New! WV1500 Camera ... *In Stock!*
- WV 1410 Camera/Lens ... $239
- Variable Iris Lens ... $79
- 1180I Printer ... Call
- 1191I Printer ... Call
- 1124 Printer ... Call

PHOENIX
- CPS 500 Power Supply ... $84

PRACTICAL SOLUTIONS
- Mouse Master ... $31

PROGRESSIVE PERIPHERALS
- Frame Grabber ... Call
- Pro Gen Genlock ... $349

QUANTUM
- SCSI Drives (The Best) ... *Lowest!*

RONIN
- Hurricanes! ... *Best Price*

SAFESKIN
- Clear Keyboard Covers ... $19

SOUTHERN TECH
- My-T Mouse ... $42
- Internal Drive A2000 ... $109

SPIRIT TECHNOLOGY
- Up to 1.5MB for A1000 ... Call
- Up to 1.5MB for A500 ... Call
- Hard Disk Interfaces ... Call
- *All RAM on Sale Now!*

STAR MICRONICS
- NX1000 Rainbow ... $259
- NX1000 Black ... $190

SUNRIZE INDUSTRIES
- Perfect Sound ... $69
- Perfect Vision ... $199
- Color Splitter ... *In Stock!*

SURFSIDE
- Master 3A 3.5" ... $149

SUPRA
- 2400 Modem ... $144
- 2400zi Internal (A2000) ... $149
- Hard Drives ... Call

TECHNICOVER
- Cover for A500 ... $14
- Cover for A1000 ... $17
- Cover for A2000 ... $17

WICO
- Trackball ... $39

VID TECH
- Scanlock ... Call
- *GA is the #1 Scanlock Dealer!*

VISUAL AURALS
- Mindlight 7 ... $178

XEROX
- 4020 InkJet Printer ... Call

ELECTRONIC ARTS SOFTWARE

- Aaargh! ... $25
- Alien Fires ... $29
- Alternate Reality ... $29
- New! Annals of Rome ... *In Stock!*
- Artura ... Call
- Awesome Arcade Pak ... $36
- Bard's Tale ... $32
- Bard's Tale II ... $43
- Battle Droidz ... $26
- Black Cauldron ... $29
- Chessmaster 2000 ... $30
- Chessmaster 2100 ... *Soon!*
- New! *Commisioner's Disk* ... $15
- Cosmic Relief ... $27
- Deluxe Music ... $63
- Deluxe Paint II ... $84
- New! Deluxe Paint III ... $99
- Deluxe PhotoLab ... $104
- Deluxe Productions ... $129
- Deluxe Video 1.2 ... $84
- Dinosaur Discovery Kit ... Call
- New! Double Dragon ... *In Stock!*
- Earl Weaver Baseball ... $35
- New! Earl Weaver 88 Stats ... $15
- Empire ... $36
- Ferrari Formula 1 ... $36
- First Letters and Words ... $36
- First Shapes ... $34
- Gettysburg ... $42
- Global Commander ... $29
- Heroes of the Lance ... $29
- Hot & Cool Jazz Disk ... $19
- Hunt For Red October ... $36
- Instant Music ... $32
- Instant Music Data ... $19
- Intellitype ... $19
- Interceptor ... $35
- Kampfgruppe ... $46
- Kid Talk ... $34
- New! Lancelot ... $29
- Leisure Suit Larry ... $35
- Mad Libs ... $16
- Marble Madness ... $19
- Master Detective ... Call
- New! Master Ninja ... $21
- Math Talk ... $34
- Math Talk Fractions ... $34
- Mavis Beacon ... $33
- Phantasie ... $31
- New! Police Quest ... *In Stock!*
- New! Populous ... *HOT!*
- Pub Games ... $26
- Puzzle Storybook ... Call
- New! Questron II ... $38
- Quizam ... $25
- Reach For The Stars ... $33
- New! Rebel Charge ... *In Stock!*
- New! Reel Fish'n ... $32
- Return To Atlantis ... $19
- Roadwar 2000 ... $32
- Roadwar Europa ... $31
- Roadwars ... $26
- Rockford ... $26
- Rubicon Alliance ... Call
- Scrabble ... $29
- Seasons & Holidays ... $19
- Skyfox II ... $19
- Smooth Talker ... $36
- Sorcerer ... Call
- Speller Bee ... $34
- Thexder ... $26
- New! Time & Magik ... *In Stock!*
- Wizard Wars ... Call
- Wrath of Nicodemus ... $29
- New! Zany Golf ... *In Stock!*

This section includes products from First Byte, SSI, and other companies whose products are distributed by Electronic Arts!

NOW SHIPPING BY FED-EX!

MONEY-BACK GUARANTEE!*

ABACUS
- New! Amiga DOS Toolbox $40
- AssemPro $72
- BeckerText $114
- DataRetrieve $59
- DataRetrieve Professional $149
- TextPro $59
- Amiga Machine Lang. $24
- Amiga Tricks & Tips $17
- *Many other books with disks available!*

ABSOFT
- A/C Basic (v1.3) $134
- A/C Fortran $199

ACCESS SOFTWARE
- Echilon Call
- Heavy Metal Land Combat $31
- Tenth Frame $28
- World Class Leader Brd. $29
- New! World Class Course Disk Call

ACCESS TECHNOLOGY
- New! A Cad $146
- Fancy 3-D Fonts $55
- *Now Available for Turbo Silver*

ACCOLADE
- Bubble Ghost $29
- Famous Course Disk $17
- New! Fast Break *In Stock!*
- Fight Night $34
- 4th & Inches $30
- Hardball $37
- J Nicklaus Golf $37
- Mean 18 $27
- Pinball Wizard $29
- New! Test Drive II $30
- New! Test Drive II Data (Each) $15
- The Train $31

ACS
- New! Font-Works $67
- Grade Manager $69
- Learning Curve $55
- Music Student I $43

ACTIONWARE
- Capone $28
- Creature Call
- Phaser Gun $45
- P.O.W. $28
- New! Prison $28

ACTIVISION
- New! Battlehawks 1942 $34
- New! Battle Tech $34
- Beyond Zork $35
- New! Fish $31
- Gamestar Titles Call
- GeeBee Air Rally $28
- New! Journey *In Stock!*
- New! Rampage $27
- Shanghai $29
- New! Zak MacCracken $31
- New! Zork Zero (w/Graphics) *In Stock!*

ADDISON WESLEY
- New! Amiga Manuals (Now w/1.3!) Call
- Puppy Love $24

AEGIS
- New! Animagic *Hot!*
- Animator/Images $67
- Arazok's Tomb $32
- Art Pak 1 $24
- Audio Master 2.0 $63
- Diga $49
- Draw 2000 Call
- Impact $54
- Lights Camera Action $58
- Modeler 3D $64
- Ports of Call $36
- Sonix $49
- Sound Trax 1 or 2 Call
- Video Titler v1.1 $99
- Videoscape 3D 2.0 $122

ALOHA
- Aloha Fonts (each) $15
- New! ConSoundTration $30

AMIGO BUSINESS
- Kickwork 1.3
- New! (A1000 Only!) *In Stock!*

ANCO
- New! Art Of Chess $24
- Face Off $18
- Las Vegas $19
- Micro Base $25
- Micro Text $25
- Mike The Magic Dragon $19
- New! Robbeary $18
- Sky Fighter $19
- New! Super Six $25

ANTIC
- Bobo $24
- New! Crash Garrett $27
- Human Design $24
- New! Future Design *In Stock!*
- Architectural Design $24
- Microbot Design $24
- PHASAR 3.0 $61
- Pioneer Plague $27
- Zoetrope $92
- *Turbo Silver Data Disks Available!*

AROCK
- New! Masterpiece Fonts $165

ARTWORX
- Bridge 5.0 $27
- Centerfold Squares $24
- Linkword Languages $24
- Strip Poker $28
- New! Strip Poker II *In Stock!*
- Strip Poker Data (Each) $15
- New! Tank Attack $22
- Thai Boxing $17

ASDG
- Cube Master $26
- CygnusEd Call
- FACC II $25

AVANTE-GARDE
- Benchmark Modula-2 $134
- Benchmark C Library $71
- Benchmark IFF Library $71
- Benchmark Simplified $71
- Benchmark Debugger Call

AVID
- New! Animated Fonts Call
- *For Deluxe Paint III*

BAUDVILLE
- New! Award Maker Plus *In Stock!*
- New! Award Maker Sports Disk $20
- Dream Zone $31

B.E.S.T. INC.
- All Products Call

BETHESDA
- Gridiron *In Stock!*
- Wayne Gretsky Hockey $33

BLANK SOFTWARE
- Sound Lab Amiga $239

BLUE RIBBON BAKERY
- New! Who What Where When *In Stock!*

BRITANNICA
- New! Designasaurus $34

BRODERBUND
- New! Downhill Challenge $24
- Fantavision $39
- Operation Clean Streets $28
- New! SimCity *HOT!*
- Sky Chase $28
- Space Racer $21
- New! Where In The World $30

BROWN-WAGH
- New! Easy Ledger *In Stock!*
- Express Paint 3.0 $30
- New! MidiMagic $98
- Pen Pal Call
- New! Project Master $130
- Stellar Conflict $29
- TV*Show $74
- TV*Text $39
- Wordplex $25
- Write and File $79
- Zuma Fonts Call

BUENA VISTA
- Roger Rabbit $31

BYTE BY BYTE
- Animate 3D Call
- Sculpt 3D Call
- Sculpt 3D-XL Call
- Sculpt-Animate 4D $399
- New! Sculpt-Animate 4D Jr. $99
- New! Tate Fonts $48

C LTD
- Jet Set $35
- Jet Set Font Sets Call

CAPCOM
- Bionic Commando $28
- Side Arms $28
- Street Fighter Call

CENTRAL COAST SOFTWARE
- Disk 2 Disk (New Version) $37
- Dos 2 Dos $37
- Quarterback $54

CINEMAWARE
- Defender of the Crown $31
- King of Chicago Call
- New! Lords of the Rising Sun $33
- Rocket Ranger $33
- SDI $31
- Sinbad $31
- TV Sports $32
- Three Stooges $31

COMMAND SIMULATIONS
- Blitzkrieg/ Ardennes $42

CONSTELLATION
- All Titles On Sale!

COSMI
- New! President is Missing *In Stock!*

CREATIVE SOLUTIONS
- Multi-Forth $77

DATA EAST
- Bad Dudes Call
- Guerrilla War Call
- New! Platoon *In Stock!*
- Robo-Cop Call

DATA RESEARCH
- Key to C (V. 2.02) $25

DELTA RESEARCH
- New! J-Forth (New Version) Call

DEMONWARE
- New! Andromeda Mission $28
- New! Detonator $28
- New! Evil Garden $31

DESIGN LABS
- Fine Print $36

DESIGNING MINDS
- Chroma Paint $54

DIGITAL CONCEPTS
- Torch 2081 $18

DIGITEK
- Amegas $24
- Clever & Smart $24
- Cyber Complex Call
- Drum Studio $35
- New! Final Mission *In Stock!*
- Gunshot $24
- New! Hole In One $25
- New! Hole In One Courses Call
- Hollywood Poker Call
- Paranoia Complex Call
- New! Power Sticks *In Stock!*
- New! Sky Blaster *In Stock!*
- Spin World Call
- Thunder Boy $26
- Vampire's Empire $30

DISC COMPANY
- Critic's Choice $178
- New! Kind Words 2.0 Call
- New! Publisher's Choice $139
- New! SuperBack Call

DISCOVERY SOFTWARE
- Arkanoid $23
- Arkanoid II Call
- Better Dead Than Alien $23
- Grabbit $24
- Hybris $26
- Marauder II $25
- Sword of Sodan $33
- Virus Infection Protection $32
- Zoom $20

DONAR
- New! Star Wars *In Stock!*

DR. T
- Patch Editors Call
- KCS $177
- New! KCS Level II *In Stock!*
- MIDI Recording Studio *In Stock!*
- The Copyist Pro $149
- *We have everything from Dr. T!*

EAGLE TREE SOFTWARE
- Butcher 2.0 $25
- New! Distant Armies Call

EASEWARE
- Home Builder's Cad $139
- New! Home Builder's Choice *In Stock!*

EAST/WEST
- New! Take Stock $34

EIDERSOFT
- Amiga Karate $24
- Casino Fever $29

ELAN DESIGN
- Invision (Req. Live!/New Ver.) $141
- New! Elan Performer *In Stock!*

EMERALD INTELLIGENCE
- Magellan (New Version) $129

EPYX
- New! Battleship *In Stock!*
- New! California Games *In Stock!*
- Devonaire Call
- Dive Bomber $37
- Four By Four $31
- Games, Winter Edition $34
- Mind Roll $22
- Skate Wars Call
- New! Space Station *In Stock!*
- Street Cat Call
- Sub Battle $34
- Techno Cops $34n
- Under Sea Commando Call

ESCAPE SEQUENCE
- Photosynthesis $108

ETHOS
- New! Casino Fever $26
- New! Poker Solitaire $24

EXPRESSWAY
- New! Express Copy $31

EZ SOFT
- New! EZ Backup $36

FINALLY
- New! Animotion *In Stock!*
- New! B Paint $27

FIRST ROW
- HoneyMooners Call
- New! Prime Time $27
- New! Twilight Zone $29

FREE SPIRIT
- Last Inca $28
- New! Media Line Fonts *In Stock!*
- New! Securities Analyst $56
- New! Sex Vixens From Space $29
- Ultimate Dos Utils $46

FTL
- Dungeon Master $29

FULLER COMPUTING
- Project D (New Version) Call

GIMPEL SOFTWARE
- Lint $85

GOLD DISK
- Comic Setter $74
- Comic Setter Data Disks Call
- New! Design 3D $66
- New! Desktop Budget $48
- Font Set 1 $26
- Gold Spell 2 $23
- New! Movie Setter *In Stock!*
- Page Setter $49
- Professional Draw Call
- New! Professional Page 1.2 $214
- Pro Templates $38n
- New! Structured Clip Art *In Stock!*
- Transcript Call

GRAMMA SW
- New! Nag Plus $54

GRAPHIC EXPRESSIONS
- Mastering CLI $29

HAITEX
- A Drums Call
- Amic Term Call
- Haicalc $44

HARD WIRED
- New! Denaris $29
- New! Jinks $22

HASH ENTERPRISES
- Animation: Editor $40
- Animation: Effects $35
- Animation: Flipper $40
- New! Animation Multiplane *In Stock!*
- New! Animation: Rotoscope *In Stock!*
- Animation Stand $35
- Animator: Apprentice Call
- Apprentice Libraries Call

HILTON ANDROID
- Aesop's Fables $19
- Chicken Little $19
- Little Red Hen $19
- Three Little Pigs $19
- Ugly Duckling $22

HI SOFT
- New! DevPac Amiga *In Stock!*
- New! HiSoft Basic $115

HYPERTEK
- GOMF! (Latest Version) *In Stock!*
- New! GOMF 3.0 w/Button $54

IMAGE TECHNOLOGY
- New! Dungeon Quest $34
- New! Kikugi $20

IN COGNITO
- New! Atredes Prof BBS $99
- Kingdoms of England Call
- Opticks Call
- Realm of the Warlock $25
- New! Snake Pit *In Stock!*
- New! Targis *In Stock!*

IMPULSE
- Turbo Silver $109
- New! Terrain Disk Call

INFINITY SOFTWARE
- Galileo 2 $49
- Grand Slam Tennis $38
- Hot Licks $30
- Shakespeare v1.1 $99
- *While They Last!*

INNOVISION
- New! Broadcast Titler *In Stock!*
- Video Effects 3D $142

INOVATRONICS
- CAPE 68K $65
- InovaTools (New Version) $57
- Power Windows 2.5 $63

INTELLIGENT MEMORY
- Emmetic Skimmer Call
- Garrison $36
- Garrison II $36
- TurboPrint $38

INTELLIGENT MUSIC
- New! M $149

INTERACTIVE SOFTWORKS
- Calligrapher $69
- Ashas Fonts Call
- Lion's Calligrafonts Call
- Newsletter Fonts $32
- Studio Fonts $32

INTERPLAY
- Battle Chess $34
- Neuromancer Call

INTRACORP
- New! Trump Castle $28

JDK IMAGES
- New! Pro Video Gold $199
- Font Libraries for PV+ (ea.) $79

JHM SOFTWARE
- New! Easy Titler $34

KARA
- New! Headlines 1 or 2 $53
- New! Subheads $55

KFS SOFTWARE
- The Accountant $189

KONAMI
- Boot Camp $31
- Contra $31
- Jackal $31
- Rush'n Attack Call

LAKE FOREST LOGIC
- Disk Mechanic $60

LATTICE
- C++ Call
- C 5.0 $199
- Compiler Companion $78
- Other Products Call

LIGHTNING PUBLISHING
- The Big Picture $23

LYNN'S LUNA C
- WB Extras $25

MAGIC BYTES
- Pink Panther $34

MAGNETIC IMAGES
- Clip Art Disks 1-8 (Each) $15

MANX
- Library Source $199
- Aztec C-Dev. $199
- Aztec C-Prof. $149
- Source Level Debugger $57

MASTERTRONIC
- Feud $18
- Kickstart 2 $17
- New! Metropolis $31
- Ninja Mission $18
- New! Sidewinder *In Stock!*
- Space Ranger $18

MELBOURNE HOUSE
- Magic Johnson Hoops Call
- New! War In Middle Earth *In Stock!*
- World Trophy Soccer Call

MERIDIAN SOFTWARE
- Demonstrator $27
- Zing! $49
- Zing! Keys $36
- Zing! Spell $57

METACOMCO
- ISO Pascal (New Version) Call
- Macro Assembler $79
- Shell $45
- Toolkit $35

METRON
- New! T Shell $34

MICHTRON
- New! AB Zoo *In Stock!*
- Airball $28
- Cashman $24
- Karate Kid II $28

MICRODEAL
- New! AMAS *In Stock!*
- New! Fright Night $28
- New! Hit Disk! *In Stock!*
- Insanity Fight $29
- New! International Soccer $28
- New! Jug $27
- Leatherneck $29
- Major Motion $27
- Ringside Call
- New! Slaygon $29
- New! SlipStream $17
- Tanglewood $27
- New! Tetra Quest $27
- Time Bandits $28
- New! Zero Gravity $21

MICRO ENTERTAINMENT
- Golden Pyramid Call

MICRO ILLUSIONS
- Black Jack Academy $29
- Craps Academy $26
- Discovery Data Disks *In Stock!*
- Ebonstar $29
- Faery Tale $34
- Galactic Invasion $19
- Land of Legends *Soon?*
- Music X $175
- Photon Paint $69
- Photon Paint Expansion $23
- New! Photon Vid. Transporter Call
- New! Photon Vid. Cel Animator Call
- Planetarium $51
- Romantic Encounters $29
- Tracers $27
- Turbo $19

MICRO MAGIC
- Forms in Flight 2.0 $80

MICRO MASTER
- Family Tree $34

MICROPROSE
- New! Gunship *At Last!*
- New! Kennedy Approach $31
- Silent Service $24

MICROSEARCH
- New! City Desk 2.0 *In Stock!*
- Head Coach $39

MICROSMITHS
- TxEd Plus $57

MICRO SYSTEMS SOFTWARE
- Analyze! 2.0 $74
- BBS-PC $106
- Excellence! (Req. 1MB) $159
- Flipside! $31
- New! Online! Platinum *In Stock!*
- Organize! $63
- New! Scribble! Platinum $99
- The Works! Platinum $199

MIMETICS
- 3 Demon $72
- New! Pattern Splatter *In Stock!*
- SoundScape $130
- New! SoundScape Complete $289
- Utilities I $40
- New! Utilities 2 *In Stock!*

MINDSCAPE
- New! Action Fighter $28
- Balance of Power $31
- New! Balance of Power 1990 *In Stock!*
- Blockbuster $27
- Blocker Call
- Captain Blood Call
- New! Combat Course *In Stock!*
- Deja Vu II Call
- Harrier Combat $35
- New! Hostage *In Stock!*
- New! Indiana Jones $28
- Ice Hockey $33
- Indoor Sports $35
- New! Joker Poker $33
- Perfect Score SAT $52
- New! Road Raider $27
- Shadowgate $33
- Uninvited $31
- New! Willow $28

MINDWARE
- New! Aunt Arctic Adventure $27
- New! Charon 5 *In Stock!*
- Holmes Call
- Des Cartes $24
- PageFlipper F/X $101
- New! PageRender 3D $108
- PageSync Call

MSI
- Raw Copy 1.3d $39

MV MICRO
- New! BAD *In Stock!*

NEW HORIZONS SOFTWARE
- Flow $69
- ProWrite 2.0 $75
- ProFonts (each) $26
- New! ProScript $33

NEWTEK
- Digi-Paint $45
- Digi-Droid $74
- Digi-View 3.0 $131
- Digi-View Gold $131

NEW WAVE
- Sound Oasis *In Stock!*
- Dynamic Drums $59
- Dynamic Studio $144

OCEAN SW
- New! Batman $34

OMNITREND
- Breach $29
- Breach Scenario $19
- Paladin $29
- Paladin Scenario $19

OPCODE SYSTEMS
- Music Mouse $49

ORIGIN SYSTEMS
- New! Auto Duel *In Stock!*
- Moebius $38
- Ogre $25
- Ultima III $29
- Ultima IV $39

OTG
- DSM Disassembler $44

OXXI
- New! A-Talk III *In Stock!*
- MaxiPlan 500 *Special*
- Nimbus 1.3 (New Version) Call

PEACOCK SYSTEMS
- CB Tree $79

POLYGLOT SOFTWARE
- Crossword Creator $35
- Dominoes $18
- Four In One $22

POOR PERSON
- New! Thinker Call

PRECISION SOFTWARE
- New! Pro Sound Designer *In Stock!*
- New! Superbase Personal II $99
- New! Superbase Professional 3 $229

PROGRESSIVE PERIPHERALS
- CLImate Call
- DiskMaster $40
- DR Term Pro $63
- IntroCAD $63
- Mathamation $42
- MicroLawyer $42
- Pixmate $54

PSYGNOSIS
- Aquaventure Call
- Arena $15
- New! Baal *In Stock!*
- New! Ballistix $22
- Barbarian $27
- New! Blood Money *In Stock!*
- New! Captain Fizz *In Stock!*
- New! Chrono Quest $34
- Deep Space $21
- New! Fire Brigade $33
- New! Menace $24
- Obliterator *In Stock!*
- New! Star Ray Call
- Terrorpods $28

QUESTREK
- New! Mission ConBat *In Stock!*

RAINBIRD
- Black Lamp $19
- Carrier Command $33
- New! Corruption *In Stock!*
- Silicon Dreams $25
- New! Space Cutter $20
- StarGlider $33
- StarGlider II *In Stock!*
- New! Univ. Military Sim. *In Stock!*
- UMS Data Disks Call
- New! Virus $21

READYSOFT
- New! AMAX *In Stock!*
- Bomb Busters $23
- New! Cosmic Bouncer $21
- Dragon's Lair $38
- Ganymed $27
- New! Rock Challenge $27
- New! Scary Mutants $27

RGB VIDEO CREATIONS
- DeluxeHelp Call
- *Available for Deluxe Paint II, DigiPaint, Pagesetter, Photon Paint, and Calligrapher!*

RIGHT ANSWERS GROUP
- The Director $45
- New! Director Toolkit *In Stock!*

SCORPION
- Black Shadow $25
- Foundation Waste $24
- I Ludicrous $24
- New! Phantasm $24
- New! Space School Simulator $24
- New! Synapse *In Stock!*
- New! Transputer $24

SEDONA SOFTWARE
- Money Mentor $39

SEGA
- Afterburner Call
- New! Alien Syndrome $28
- New! Out Run *In Stock!*
- Shinobi Call
- New! Space Harrier $36

SEVEN SEAS SOFTWARE
- Color Commander $21
- New! Doug's Library Disk $11
- Doug's Math Aquarium $59

SOFT CIRCUITS
- L Debug $76

SOFTGANG
- Final Trip $18
- Power Pack (3 Games) Call
- Space Flight $18
- Vader $18

SOFTLINK
- MultiPrefs $23
- New! Stuffit $28

SOFT LOGIK
- PageStream $129
- PageStream Forms Call
- New! PageStream Fonts *In Stock!*

SW ADVANTAGE
- Investor's Advantage $79

SOFTWARE TERMINAL
- New! Tele Epic *In Stock!*
- Telegames $26
- Telewar $29
- New! Telewar II *In Stock!*

SOFTWARE VISIONS
- New! Microfiche Filer Plus $115

SOUND QUEST
- Patch Editors Call
- Texture *In Stock!*
- Texture 2 Call

SPECTRUM HOLOBYTE
- New! Falcon HOT! *In Stock!*
- Solitaire Royale $22
- New! Tetris $25

SPOTLIGHT
- New! Death Bringer $27
- New! Speedball $27
- New! Total Eclipse $27

STAR SOFT
- Formula One $21
- Frost Byte $21
- Seconds Out Boxing $21
- Stock Market Game $19
- Santa Paravia *In Stock!*

SUBLOGIC
- European Scenery $20
- Flight Simulator 2 $32
- Japan Scenery $20
- Jet $35
- Scenery Disk 7 or 11 $18
- New! Scenery Disk 9 *In Stock!*

SUNRIZE INDUSTRIES
- Desktop Artist $23
- Studio Magic $75

SUNSMILE SOFTWARE
- Extend $29
- Home Inv Manager $27

SYNDESIS
- Interchange $40
- Interchange Object $15
- New! InterFont $82
- New! Turbo Silver Conversion $15

TAITO
- New! Renegade *In Stock!*
- New! Operation Wolf *In Stock!*

TAURUS
- X-Cad $425

THE OTHER GUYS
- Promise $39
- Match It $29
- Reason Call
- Synthia $75

THREE-SIXTY
- Dark Castle $29
- New! Warlock $24

TIGRESS
- Diskwik $36

TITUS
- Crazy Cars $27
- New! F40 Pursuit *In Stock!*
- Fire & Forget $27
- Off Shore Warrior *In Stock!*

TRUE BASIC
- Developer's Toolkit $39
- Runtime Package $109
- True BASIC $74
- Libraries (Each) $39

TSA MEDIA
- New! Boomer-Aid *In Stock!*

UNICORN
- Adv. of Sinbad $35
- Aesop's Fable $33
- All About America $42
- Animal Kingdom $35
- Arabian Nights $35
- Fraction Action $33
- Kinderama $33
- Logic Master $36
- Magical Myths $36
- Math Wizard $35
- Read & Rhyme $33
- Read-A-Rama $33
- Word Master $35

UNISON WORLD
- Art Gallery 1 or 2 $20
- Fantasy Call
- Fonts & Borders Call
- Print Master Plus $33

VEGA
- New! AmiKit $29

VIDEO VISIONS
- Data Disks For PageFlipper Call

VISIONARY DESIGN
- New! DataStorm *HOT!*
- Vortex Call

WILLIAM HAWES
- ARexx $36
- W-Shell $396

WORDPERFECT CORP.
- WordPerfect $179
- WordPerfect Library Call

Our objective is to carry every product for the Amiga — and sell them at the best prices. Our policy is to be as competitive as possible on all product prices. If you find a lower price, please give us a call. It is no longer close to possible for us to list all the products we carry. If you don't see it listed, please call.

New! Products are new and in stock.
Products had not been released at press time.
Products have been marked down in price.
All other products are normally in stock (as well as hundreds more).

Orders Only: **800-BE-AMIGA**™

In California: **800-843-2842**





Customer Service: **415-364-9714**

Facsimile (FAX): **415-365-2073**

Now on Compuserve: **71230, 2412**

Send Mail Orders to: **GO AMIGO** 2682D Middlefield Road, Redwood City, CA 94063
(Money Order, Cashier's Check, or Qualified P.O. only. California residents add sales tax.)

SHIPPING INFO: Software Shipping rates are $2.50/item using UPS Ground service (max. $7.50) or $4.50/item using UPS 2nd Day Air Service (max. $13.50). For Federal Express shipping rates and conditions, see opposite page. Call for hardware rates. APO, Mail, foreign shipping extra. Call for more info. ***RETURN & REFUND POLICY:** All returns must have an RMA-#. Call Customer Service to request an RMA-#. Defective merchandise under warranty will be repaired or replaced. Returned product must be returned postage prepaid with all original packaging. Through September 30, we are offering a money-back guarantee on many products we sell. It does not apply to all products, and there are some restrictions, so call for complete details. **OTHER POLICIES:** We do not charge your card until the product actually ships. Purchase order customers must have credit application on file. No surcharge for VISA and MasterCard. When ordering with credit card, *PLEASE* include expiration date and name of bank! Call Fridays for unannounced specials.

Amiga is a trademark of Commodore-Amiga. Go Amigo is in no way associated with Commodore-Amiga.
Delivery subject to product availability • Prices subject to change • **Circle 26 on Reader Service Card**



Hi-Res: A Mode Of Many Colors

7

A continuing series of tips, techniques, and tricks for creating more imaginative Amiga graphics.

By Joel Hagen

BECAUSE MANY AMIGA artists do not want to be limited to only 16 colors, they avoid the 640 × 400 hi-res interlace mode in DeluxePaint. There are, however, simple techniques by which DPaint users can have 136 colors at their disposal *and*, at the same time, keep all the benefits of working in hi-res mode.

The key to this lies in the resolution itself. At 640 by 400 pixels, a checkerboard pattern of two colors blends to the eye into a third color. Thus, 16 actual colors can yield an additional 120 virtual colors ($16 \times 15 \div 2 = 120$ individual two-color combinations). Some paint programs, such as Paintbrush for the IBM, are limited to only this method of color mixing to get beyond the 16 "canned" system colors. If you are skeptical about the clarity of "virtual" colors, try the techniques outlined here and I guarantee you will be pleasantly surprised. There is a certain irony here in that at lower resolution the pixels are too large for the eye to blend. Thus, the very resolution people avoid because of color limitation is actually the only resolution capable of giving them 136 colors.

Stencil: Key to 136-Color Painting

One of the most powerful features of DPaint, yet perhaps one of the least understood, the Stencil function is central to all painting operations in this "136 mode." You will find Stencil in the Effects menu, and you can make a Stencil by locking colors in the Make Stencil requester. Any areas of those locked colors within your current image become part of a single shape that Stencil recognizes as a mask. By turning Stencil on, you protect the masked area so that it cannot be painted over. Turning Stencil off removes the mask, allowing you to paint in the previously protected area. (Stencil can be toggled on and off with the " ` " key, located just below ESC.) What often confuses people is that instead of saving color information to keep you from painting over certain colors, Stencil saves a shape that you define by whatever colors you lock at the time you create the Stencil. You save and load Stencils in the same way you save and load pictures, brushes, and anims.

To set yourself up for "136 mode" painting, open a high-res, 640 × 400, 16-color screen and then create a full-screen checkerboard Stencil. The easiest way to do this is to clear the screen to the background color by hitting SHIFT-K on the keyboard. (Try to become familiar with the keyboard equivalents to mouse selections; they will make your work easier and more spontaneous.) Now magnify the area under the cursor by hitting the M key. Hit the "." key for a single-pixel brush and the S key for dotted-line freehand. In the magnified area on the right side of the screen, place a single-pixel dot, then place another dot next to it at a diagonal. In other words, make the second dot over one and down one. Hit the B key for the Brush tool. Position the cross hairs exactly on top of one dot and drag the brush exactly on top of the other dot to pick up a brush two pixels wide and two high. Hit the M key again to toggle magnify off, and clear the screen.

Now, bring up the Fill requester with SHIFT-F on the keyboard. Click in the From Brush box and you will see the pattern box in the requester fill with a checkerboard of the background and foreground colors. Click OK and exit to the screen. Hit F10 to turn off all menus

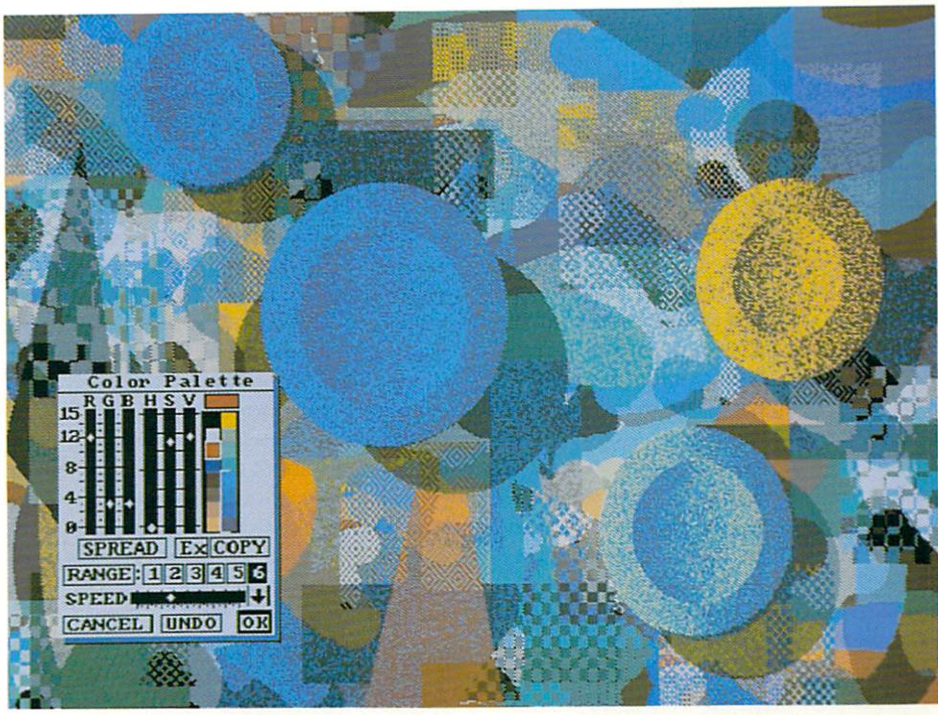
Far from limiting your color selection, Hi-res mode is actually the key to broadening extensively the range of colors available to you.

so that you are looking at a full screen. Hit F to use the Fill tool and fill the screen with the pattern you just created. Now bring up the Make Stencil requester by hitting SHIFT-~ (the "~" key is also located below ESC). Click on the foreground color you used in the pattern to lock it, and then click the Make box. This returns you to the screen and you will see an "S" in the menu bar telling you that a Stencil is active. Save it to disk at this point for future use. Toggle the Stencil off by hitting the " ' " key (again, located below ESC). Clear the screen and you are ready to paint in "136."

Working in "136 Mode"

To try out the new mode, size up a half-inch brush from the tool menu with your right button. (Stencil is still toggled off.) Choose a foreground color and scribble on the screen. Do this with several colors. Now toggle Stencil on with the " ' " key. When you scribble on the screen, you will see the brush behaving as though it were a transparent glaze, affecting other colors without obscuring them. With Stencil on, a red brush painted over a solid blue area creates purple, and so on. A black brush with Stencil on acts like a hi-res Halfbrite mode, shading any color down to a darker equivalent. White (or light gray) highlights a color, creating a pastel. Keep painting, toggling back and forth between Stencil on and Stencil off, and you will see complex colors emerge.

Now, let's take things a step further. Go to the Stencil submenu and select Reverse (unfortunately, here there is no keyboard equivalent). This locks only the negative space of your Stencil shape, allowing another level of complexity. If



It is possible to paint with 136 colors in hi-res interlace mode—as this mulitcolored abstract demonstrates. (Note the Palette settings, lower left.)

you have created an image with combinations of Stencil on and Stencil off, the structure of that image will be preserved when you add new color with Stencil reversed. A little experimentation will clarify this. A further level of color control is available by switching to the Tint painting mode while using Stencil operations. This also preserves underlying image structure.

Building a good palette is critical to getting the most out of this "136 mode." You will find it best to create a fairly broad spectrum, rather than ranges of several subtle shades of similar colors. Keep a solid black and one or two very light colors for shading and highlighting. Smear, Blend, and Smooth can behave in interesting but less predictable ways, as they can disrupt the checkerboard pattern of an image, destroying virtual colors. Try all the tools in "136 mode" to see how they operate. Gradient filled shapes are particularly interesting, especially when interlocked by reversing Stencil. ■

Joel Hagen's credits include work in art, astronomy, science fiction, and software development. Write to him at 10512 Sawyer, Oakdale, CA 95361. Please include a stamped, self-addressed envelope.

MURDER AT SARATOGA—UPDATE



ALTHOUGH THIS IS the "September" issue, it is still a bit too early to reveal the solution to our mystery. Many subscribers to *AmigaWorld* may be reading this *before* the August 15 entry deadline. (See next month's issue for the solution and Finalist prize winners.)

We can, however, clean up one of the "mysteries" surrounding our contest that we didn't want to reveal earlier—namely, how the Grand Prize winner, Runner-up winners, and other finalists will be chosen. As this is a "horse-racing whodunit," we thought that an actual horse race, this year's *real* Travers Stakes—to be run on Saturday, August 19—should be the "trigger" to spring our contest winners.

Borrowing a page from the old "Irish Sweeps" we will randomly assign each one of our finalists a horse in the Travers Stakes when entries are drawn for the race on Thursday morning, August 17. The finalist whose horse wins the race will win the Grand Prize. The second-place finisher wins the Second Prize, and so on right through the complete order of finish. If there are fewer than 12 horses in the race (say, for instance, only eight are entered), then the ninth finalist selected automatically receives the Ninth Prize specified in our prize list, and so on through the Twelfth Prize.

Although we will be notifying all 12 of our finalists by telephone on Thursday, August 17, they (and everyone else alike) won't have to sit back and wait for further notification from us to see if they've won. You can watch the Travers Stakes live on national TV (ABC) on Saturday afternoon, August 19, and find out for yourself. As you can see, we've left *everything* to chance!

Saratoga Live

IF YOU HAVE been following "Murder at Saratoga" over the past two issues, you may have been wondering what the *real* Saratoga is like and whether it bears any resemblance to what happens in our mystery. While the characters and the murder story are fictional, much of the description of places and events is indeed based on fact.

Saratoga Race Course (pictured below), has been in operation every August for over 125 years, ever since John "Old Smoke" Morrissey—a native-born Irishman, former American Heavyweight boxing champion, politician, and gambling entrepreneur—built the track in 1863. America's oldest and most beautiful racetrack also hosts the country's oldest major stakes race, the Travers, first run in 1864—11 years before the inaugural running of the Kentucky Derby.

Although Saratoga has witnessed the success of many of the legends of American racing—including Travers winners Man O'War (1920), Native Dancer (1953), Buckpasser (1966), and Damascus (1967)—it has also seen some of the most stunning upsets in the history of the sport. A year before his Travers' victory, Man O'War suffered the only defeat in his illustrious 21-race career when he was beaten by a horse by the name of, yes, Upset! And like our story's Rambling Boy, 1930 Triple Crown winner Gallant Fox lost the Travers to a 100 to 1 shot called Jim Dandy. And the shock waves have not quite receded yet from the mighty Secretariat's defeat in 1973 at the hands of the ingloriously named Onion.

Scene of the "Silverspoon Costume Ball" in our mystery, the Canfield Casino is actually the site of a very famous annual celebrity shindig held on the first Friday night of August.

Morrissey opened the establishment as the "Club House" in 1870 to immediate success. Richard Canfield, the "King of the Gamblers," purchased the Club House in 1894 and renamed it "The Casino." Refurbishing it in the most elegant European fashion, Canfield made millions (about 13 to be precise) at his trade, as some of the biggest high-rollers of the time won and lost fortunes at his tables. (It is reported that William C. Whitney dropped $385,000 early one evening while waiting for his wife to dress for dinner.)

Sensing the wave of anti-gambling sweeping early 20th century America, Canfield cashed in his chips and sold the Casino to the city of Saratoga Springs in 1911. The Casino's upper floors now house museums of historical interest, while some of the more risqué flavor of old Saratoga still lingers downstairs in the ornate ballroom.

August headquarters of our fictional Buford Langtry, the Gideon Putnam Hotel is an elegant grand hotel in the European tradition set among the tree-lined paths and sweeping green lawns of the 2000-acre Saratoga Spa State Park. The original hotel, built by its namesake in 1803, was the first to cater to the increasing number of visitors who came to "take the cure" at Saratoga's highly touted mineral springs.

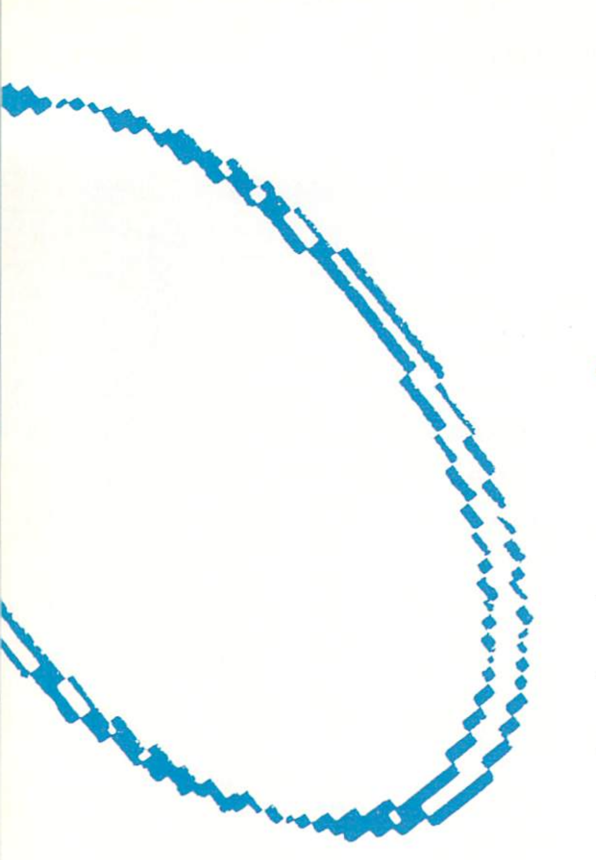
And finally, let us not forget Madigan's. Unfortunately, there is no *real* Madigan's. There are, however, several notable watering holes in Saratoga known to the writer, and from a composite of these and some others no longer doing business, he concocted "The Bar Shoe Inn." You'll probably recognize a few of them if you ever visit Saratoga. ■

—Daniel Sullivan



Horses thunder into the far turn at Saratoga Race Course—just like they have since 1863.

ILLUSTRATION BY KERRY GAVIN—PHOTO COURTESY OF GREATER SARATOGA CHAMBER OF COMMERCE



AmigaDOS Utilities Part 2

In the wrap-up of its two-part look at programs to aid AmigaDOS users, Team info.phile rates the competitors as batting an even .500.

By Bill Catchings and Mark L. Van Name

WINDING UP OUR survey of AmigaDOS utilities begun last month, we encountered another mixed bag of programs. Our second half dozen varied in both function—CLI replacement, archiving, tutorial, disk-operation speed up, all-purpose toolbox, and Guru buster—and usefulness. While you need not hurry out and buy any of these programs before sunset today, at least three out of the six are handy utilities at competitive prices.

CLImate and DiskMaster

Like Meridian's Zing! and DMH Technologies' Disk Magic (both covered last month in Part 1), our first two programs are CLI-repalcement utilities, both from Progressive Peripherals. CLImate, the simpler and less expensive ($39.95) of the two, is the better value. It lets you maintain disks, directories, and files without using the Workbench or the CLI, and it performs its small number of tasks very well.

Its main screen displays two ten-line boxes. The left box shows the contents of a source directory, while the right contains a destination directory. You can format disks and create new directories at any time. CLImate's main tools, however, are its Rename, Display, Showpic, and Batch functions.

When you select one of these functions, a set of corresponding buttons appears on the bottom of the screen, and the behavior of the left mouse button changes appropriately.

Rename and Display do what their names imply; you can give a file a new name or view the contents of a file as either ASCII text or strings of HEX digits. Showpic allows you to display any IFF-compatible picture, including HAM images.

The heart of CLImate, however, is Batch, which lets you work on groups of files. You can select and highlight multiple files either by clicking on them or by entering an AmigaDOS wildcard specification. You can then copy, delete, move, or print that group. You can even copy and delete entire directory trees.

CLImate delivers on what it purports to be, and if you do not like using the CLI but still need to do a great deal of file manipulation, it will be a useful investment. It is sufficiently easy to learn and to use, and its seven-page manual is perfectly adequate for the job.

Unfortunately, we cannot say the same for PP&S's other offering, DiskMaster. At $49.95, it is a more complex program than CLImate, providing several additional features (including mouse control of the popular public-domain archiving program ARC—not included with DiskMaster—that allows you to compress and decompress files for faster, more economical on-line transfer). With DiskMaster, however, it is a case of trying to offer more, but doing it less well. Like CLImate, DiskMaster has a brief manual, only six pages, but here small is not a virtue. Too many functions are neglected or inadequately explained.

DiskMaster essentially stays in CLImate's Batch mode—although the two directory boxes run almost the full height of the screen, and the Rename and Showpic functions are always available.

DiskMaster is an odd mix of additional features and omissions. With it you can ►

change a file's protection and comment fields, but you cannot display a file in HEX. It supports wildcards, but rather than the familiar AmigaDOS #? characters, it uses instead an asterisk (*) as its wildcard character.

DiskMaster was also less robust than CLImate. In our brief time with the product, we found ourselves losing control of it—the mouse moved and the foreground/background gadget worked, but the rest of the program was hung.

Although we can recommend CLImate to those who need it, we cannot do the same for DiskMaster.

DOS Lab

Rather than trying to replace or augment the CLI and Workbench, Jumpdisk's DOS Lab ($25) tries to help you, according to its documentation, "learn AmigaDOS 1.3 the interactive way."

The tutorial comes on two floppies with a one-page, dot-matrix-printed instruction sheet. You can boot with both disks, but if you do not have one of the disks in DF0: the examples will not work.

DOS Lab uses the Amiga's multitasking abilities nicely; you type CLI commands in a CLI window on the bottom third of the screen, while the tutorial text remains in another window in the rest of the screen. Some graphics would have been helpful in providing examples, but unfortunately the program is entirely text-based.

The content and flow of the tutorial itself, however, poses a more significant problem. It starts with the CLI instead of the Workbench—a sure way to alienate novices. Commands are covered in a less-than-logical, less-than-intuitive fashion. For instance, after presenting DIR, LIST, and TYPE (so far, so good), it then moves on to EVAL. Why not stick to the more basic, frequently used commands first—say, CD or ENDCLI—before going on to more esoteric ones?

While DOS Lab may be of some value in presenting the fundamentals of AmigaDOS, it does not strike us as a particularly good way to learn about and use an Amiga.

FACC II

If you are looking for a utility to speed up floppy-disk operations, then ASDG's FACC II ($34.95) may fit the bill. Like the AmigaDOS AddBuffers command, FACC II achieves such speed increases by caching file blocks in memory buffers. FACC II, however, offers a few improvements over AddBuffers.

For one thing, FACC II is faster. Also, because it keeps all of its buffers in a single pool (AddBuffers assigns buffers to individual drives), FACC II can employ its buffers where you need them most. FACC II also handles memory shortages gracefully by detecting when you are short on memory and then surrendering some of its buffers before you run out.

The biggest drawback of FACC II is that it does not work with all software. Bard's Tale II, for instance, was among the programs that would not work with it—despite the fact that we talked with both ASDG and Electronic Arts. A lesser problem is that FACC II lacks printed instructions, relying solely on an on-line manual.

Despite these complaints, we recommend FACC II as a useful, if not absolutely essential, utility.

AmigaDOS Toolbox

Abacus' AmigaDOS Toolbox ($59.95) offers a whole range of potentially useful tools. The price struck us as a bit high, but we were willing to overlook it if the product lived up to its documentation's claims as a "collection of essential, powerful, and easy-to-use tools." While many of the tools worked properly, those which seemed to offer the most promise did not deliver the goods.

Deepcopy, perhaps the most interesting and potentially useful of the lot, supposedly copies disks faster than AmigaDOS, and also lets you duplicate copy-protected disks and disks in MS-DOS format. Sounds good; since the demise of the late, great Marauder II, we've been looking for a good alternative.

The manual claims that "this program is not very attractive, but it is fast and accurate." That's two-thirds right; it has an ugly, cryptic interface, and it is fast. Unfortunately, we could neither duplicate any of our copy-protected Amiga games, nor copy disks in MS-DOS format. We tried a whole slew of options, including those the manual suggested, but none worked.

The Toolbox's Speeder Trackdisk device accelerator also did not work. It took us quite a while to get it to even install successfully. The first disk read we tried caused a read/write error.

The BTSnap utility fared much better. Like Grabbit (Discovery Software), BTSnap captures a screen image and saves it in IFF format.

The Toolbox also includes a few fonts and some CLI tools. The CLI tools all work, but their appeal may be limited. With them you can edit disk blocks, display IFF pictures, disable the ability to reboot with the CTRL-Amiga-Amiga key sequence, replace characters and strings in files, and display text from a batch file with highlighting.

Another set of tools allows you to manipulate tasks. You can display the current tasks and their priorities, and then either freeze your current task or slow it down. The TaskPri utility, unlike AmigaDOS' ChangeTaskPri, lets you change the priority of any task, not just the CLI.

Like the program itself, Toolbox documentation draws a mixed review. The 19-page manual fails to describe adequately the often complex tools. Abacus does, however, include a well-conceived, 114-page paperback AmigaDOS Quick Reference guide that covers the 1.3 CLI. Despite the usefulness of the latter, however, we cannot recommend AmigaDOS Toolbox.

GOMF!

A few of the tools in the AmigaDOS Toolbox were so unreliable that we were glad we had installed our final AmigaDOS utility, version 3.0 of GOMF! ($34.95) from Hypertek/Silicon Springs Development Corp. GOMF!, which stands for "Get Outta' My Face!," helps you recover from software failures by keeping the Guru at bay.

GOMF!'s underlying idea is that the failure of one Amiga task should not stop the others. AmigaDOS itself should provide this feature, but it does not. The GOMF! software helps remedy the problem; used in conjunction with GOMF!'s hardware option ($35), the combined package goes a long way towards eradicating the problem entirely.

The hardware, however, is a bit tricky to install. You have to open your Amiga, remove its Paula chip, and then put GOMF!'s small daughter-card between the Paula chip's socket and the Paula chip itself. A wire runs from the card to ►





7-SIZZLERS

1. ANIMagic
2. D Paint III
3. Digi-Paint 3.0
4. Money Mentor
5. SoundTrax
6. Gretzky Hockey
7. Superbase Pro.

- 3-Demon ... 69.47
- 4x4 Off Road Race ... 27.77
- 4-Op Deluxe ... 103.56
- 4th and Inches ... 31.24
- **A-Talk III ... 63.00**
- A M A S ... 111.17
- Aaargh! ... 24.29
- ABZoo ... 24.00
- AC Basic ... 135.53
- AC Fortran ... 205.03
- Accountant, The ... 185.00
- Action Fighter ... 27.77
- ADrum ... 55.57
- Adventures of Sinbad, The ... 32.00
- Aegis Draw ... 50.00
- Aegis Draw 2000 ... 169.00
- Aesop's Fables ... 20.82
- Afterburner ... 34.72
- Airball ... 27.77
- Algebra II ... 34.72
- Alien Fires ... 27.77
- Alien Syndrome ... 33.00
- Alternate Reality ... 27.77
- **Amiga Graphics Starter Kit ... 72.00**
- AmigaDOS Express ... 20.82
- AmigaDOS Toolbox ... CALL
- AmigaTerm ... 20.82
- Analytic Art ... 41.67
- Analyze 2.0 ... 69.47
- **Android Decision ... CALL**
- Andromeda Mission ... 27.77
- **ANIMagic ... 69.47**
- Animate 3D ... 104.22
- Animation: Editor ... 41.67
- Animation: Effects ... 34.72
- Animation: Stand ... 34.72
- Animator Jr ... 54.91
- Animator w/Images (Aegis) ... 42.00
- Animator: Apprentice ... 182.00
- Animator: Flipper ... 39.00
- Annals of Rome ... 24.29
- Anti-Virus ... 27.77
- Applo 18 ... 31.24
- Arazok's Tomb ... 13.87
- Arch. Design Disk-Sculpt ... 24.29
- Arch. Design Disk-VScape ... 24.29
- ARexx ... 34.72
- **Arkanoid ... 32.00**
- Art Gallery Fantasy ... 20.82
- Art Gallery I ... 20.82
- Art Gallery II ... 20.82
- Art of Chess ... 24.29
- Asha's Fonts ... CALL
- Assembler Language ... 69.47
- Assempro ... 71.00
- **ATalk 3.0 ... 69.47**
- Atredes BBS/Skypaint ... 104.22
- AudioMaster II ... 62.00
- Autoduel ... 27.77
- Award Maker — Sports ... 20.82
- Award Maker Plus ... 34.72
- Awesm Arcade Actn Pak-AAAP ... 34.74
- Axe of Rage ... 34.72
- Aztec-C Development ... 207.81
- ■ **Aztec-C Professional ... 128.00**
- B Paint ... 27.77
- B.A.D. ... 34.72
- Baal ... 23.00
- Bad Cat ... 27.77
- ■ **Bad Dudes ... CALL**
- Balance of Power ... 34.72
- Balance of Power II (1990) ... 34.72
- Ballyhoo ... 27.77
- Bards Tale ... 38.00
- Bards Tale Clue Books (ea.) ... 11.00
- Bards Tale II ... 43.00
- Battle Chess ... 34.72
- Battlehawks 1942 ... 34.72
- Battleship ... 20.82
- Battletech ... 34.72
- Beckertext ... 104.22
- Benchmark C Library ... 69.47
- Benchmark IFF Library ... 69.47
- Benchmark Modula 2 ... 138.97
- Benchmark Simple Lib. ... 69.47
- Berzerk 3 ... 24.29
- Better Dead Than Alien ... 22.00
- Beyond Zork ... 34.72
- Black Cauldron ... 27.77
- Black Jack Academy ... 27.77
- Black Lamp ... 17.34
- Black Shadow ... 24.29
- ■ **Blasteroids ... CALL**
- Blitzkrieg Ardenne ... 36.80
- Blockbuster ... 34.72
- BMX Challenge ... 17.34
- Bomb Busters ... 20.82
- Bratacas ... 34.72
- Breach ... 27.77
- Breach — Scenario Disk ... 17.34
- Bridge 5.0 ... 24.29
- ■ **Broadcast Titler ... 193.00**
- Broadway Font ... 34.75
- Bubble Bobble ... 27.77
- Bubble Ghost ... 27.77
- Budgeteer ... 33.00
- Butcher 2.0 ... 24.00
- C-Light ... 48.65
- ■ **C-Zar ... 138.31**
- C.A.P.E. 68K Assembler 2.0 ... 62.52
- CAD Parts IntroCAD/Draw ... 48.65
- California Games ... 27.77
- ■ **Caligari Jr. ... CALL**
- Calligrafonts Asha ... 62.52
- Calligrafonts Lion ... 41.67
- Calligrapher 1.05 ... 90.32
- Calligrapher Help ... 31.24
- Capone ... 27.77
- Captain Blood ... 34.72
- Captian Fizz ... CALL
- Carrier Command ... 31.24
- Casino Fever ... CALL
- Castlevania ... 27.77
- CB Tree Plus ... 62.52
- Celebrity Cookbook ... 24.32
- Centerfold Squares ... 20.82
- Challenger ... 13.87
- Champ Baseball ... 27.77
- Champ Basketball ... 31.24
- Champ Football ... 31.24
- Champ Golf ... 27.77
- Charon 5 ... 27.77
- Chessmaster 2000 ... 34.72
- ■ **Chessmaster 2100 ... CALL**
- Chessmate ... 20.82
- ■ **Circuit Grand Prix ... CALL**
- City Desk 2.0 ... 104.22
- City Desk Art Companion ... 20.82
- CLI Mate ... 27.77
- Clip Art 1-8 (ea.) ... CALL
- ■ **CMI Net Utilities ... CALL**
- ComicSetter ... 69.47
- ComicSetter/Funny ... CALL
- ComicSetter/Sci Fi ... CALL
- ComicSetter/Superhemes ... CALL
- Cosmic Bouncer ... 20.82
- Craps Academy ... 27.77
- Crazy Cars ... 27.77
- Critic's Choice ... CALL
- CZ Master Editor ... 86.88
- CZ Voices ... 34.06
- D-50 master ... 104.25
- Dark Castle ... 31.24
- Data Retrieve ... 55.57
- Data Retrieve Professional ... CALL
- Data Storm ... 27.77
- Death Sword ... 27.77
- Deathbringer ... 27.77
- Defcon 5 ... 27.77
- Defender of the Crown ... 34.72
- Deja Vu ... 34.72
- Deluxe Help/Calligrapher ... 24.29
- Deluxe Help/Deluxe Paint II ... 24.29
- Deluxe Help/DigiPaint ... 24.29
- Deluxe Help/PageSetter ... 24.29
- Deluxe Help/Photon Paint ... 24.29
- Deluxe Maps ... 17.34
- Deluxe Music 2.0 ... 69.47
- Deluxe Paint II ... 90.32
- ■ **Deluxe Paint III ... 99.00**
- Deluxe Photo Lab ... 104.22
- Deluxe Video ... 90.32
- ■ **Demaris ... CALL**
- Demonstrator, The ... 22.00
- Descartes ... 24.29
- Design 3D ... 69.47
- Design Disk/Arch. S3D/V3D ... 24.29
- Design Disk/Future S3D/V3D ... 24.29
- Design Disk/Human S3D/V3D ... 24.29
- Design Disk/Microb S3D/V3D ... 24.29
- Designasaurus ... 27.77
- Designer Databases, Bus. 1 ... 48.62
- Designer Databases, Home 1 ... 27.77
- Desktop Budget ... 48.62
- Dev Pak Amiga 2.0 ... 69.47
- Developers Toolkit ... 34.72
- Devon Aire ... 34.72
- Devon Aire Hidden Diamond ... 34.72
- ■ **Digi Paint 3.0 ... CALL**
- Director's Toolkit ... 24.33
- Director, The ... 48.62
- Discovery/Math ... 27.77
- Discovery/Spell ... 27.77
- Discovery/Alphabet ... 27.77
- Discovery/Science ... 27.77
- Discovery/Trivia ... 27.77
- Disk Master ... 41.67
- Disk Mechanic 2.4 ... 58.00
- Disk-2-Disk ... 34.72
- Distant Armies ... 31.24
- DOS-2-DOS ... 38.23
- Double Dragon ... 27.77

•ANY PRODUCT •ANY TIME •ANY DAY

- Doug's Math Aquarium ... 55.57
- Dr. T's 4-Op Ed/Lib ... 92.00
- Dr. T's Bach Songbook ... 18.00
- Dr. T's Copyist Pro ... 156.38
- Dr. T's CZ Cartridge ... 51.00
- Dr. T's CZ Rider ... 91.00
- Dr. T's D-110 Ed/Lib ... 91.00
- Dr. T's D-50 Ed/Lib ... 91.00
- Dr. T's Dr. Drums ... 18.00
- Dr. T's Dr. Keys ... 20.16
- Dr. T's Kawai K-1 Ed/Lib ... 92.00
- Dr. T's Kawai K-5 Ed/Lib ... 105.00
- Dr. T's Matrix-6 Ed/Lib ... 92.00
- Dr. T's Midi Recording Stud ... 43.00
- Dr. T's MT-32 Ed/Lib ... 92.00
- ■ **Dr. T's ALL ... CALL**
- ■ **Dragon Force ... CALL**
- ■ **Dragon's Lair ... 41.67**
- Dream Zone ... 32.00
- Drum Studio ... 24.29
- Dungeon Master ... 27.77
- Dynamic Drums ... 55.57
- Dynamic Studio ... 138.97
- Dynamic Word ... 104.22
- Earl Weaver Baseball ... 34.72
- Earl Weaver Stats ... 14.00
- Ebonstar ... 27.77
- Emetic Skimmer ... 25.00
- Empire ... 34.72
- Encore ... 45.00
- Enlightenment ... 17.34
- Examples Disk ... 17.34
- Excellence! ... 189.00
- Express Copy ... 31.24
- Express Paint 3.0 ... 97.27
- Extend ... 25.00
- F-15 Strike Force ... 27.77
- F/A-18 Interceptor ... 34.72
- FACC Floppy Accel ... 24.29
- Faery Tale Adventure ... 34.72
- Faery Tale Guide Book ... CALL
- ■ **Falcon ... 34.72**
- Famous Courses 1 ... 13.87
- Fancy 3D Fonts/Sculpt ... 46.00
- Fantavision ... 41.67
- Ferrari Formula One ... 34.72
- Final Mission ... 24.29
- Fine Print ... 34.72
- Fire Blaster ... 6.92
- Fire Brigade ... 32.00
- Fire 'n Forget ... 27.77
- Fire Power ... 17.34
- Fire Zone ... 23.00
- First Letters & Words ... 33.00
- First Shapes ... 33.00
- Fish ... 31.24
- Flight Simulator II ... 34.72
- Flow ... 69.47
- Font Set 1 ... 24.29
- Fonts & Borders ... 24.29
- Footman ... 20.82
- Forms in Flight II ... 83.37
- Foundations Waste ... 24.29
- Fraction Action ... 34.72
- Fright Night ... 27.77
- Galactic Conquerer ... 31.24
- Galaxy Fight ... 17.34
- Galileo 2.0 ... 48.62
- Games, The Winter Edition ... 32.00
- Gauntlet ... 34.72
- GBA Basketball-Two on Two ... 31.24
- Gee Bee Air Rally ... 27.77
- Geography ... 13.87
- Geometric Library ... 13.21
- GFA Basic 3.0 ... 90.00
- GFL Champ Football ... 13.87
- Ghostly Grammer ... 34.72
- Gizmoz 2.0 ... 48.62
- Gladiator ... 27.77
- Global Commander ... CALL
- Gold Medal Volleyball ... 27.77
- Gold Runner II ... 27.77
- Gold Spell II ... 31.24
- Gomf 3.0 ... 27.77
- Grabbit ... 20.82
- Grand Slam Tennis ... 34.72
- Graphic Studio ... 41.67
- Grid Start ... 17.34
- Gridiron ... 41.67
- Guild of Thieves, The ... 31.24
- ■ **Gunship ... 27.77**
- Gunshoot ... 24.29
- Hacker ... 17.34
- Hacker II ... 27.77
- Haicalc ... 41.67
- Halley Project ... 34.72
- Harrier Combat Simulator ... 34.72
- Harrier Mission ... 17.34
- Head Coach ... 34.72
- Heroes of the Lance ... 27.77
- Heroes of the Lance Hint Dsk ... 14.00
- HISoft Basic Professional ... 103.00
- Hitchiker's Guide ... 20.82
- Hole-in-One Course Disk ... 13.87
- Hole-in-One Miniature Golf ... 24.29
- Hollywood Hijinx ... 27.77
- ■ **Home Builders CAD ... 138.31**
- HoneyMooners ... 27.77
- Hostage ... 31.24
- Hot & Cool Jazz ... 20.82
- Hunt for Red October ... 34.72
- Hybris ... 27.77
- Icon Paint ... 58.00
- Images ... 20.00
- Impact ... 49.00
- Impossible Mission ... 27.77
- Indiana Jones Temple Doom ... 27.77
- Indoor Sports ... 34.72
- Inovatools #1 ... 55.57
- Instant Music ... 34.72
- Intellitype ... 34.72
- Inter Compatibility ... 34.72
- Interchange ... 34.72
- Interchange Objects #1 ... 14.00
- Interfont ... 75.00
- International Soccer ... 25.00
- Into the Eagle's Nest ... 27.77
- IntroCAD ... 51.00
- Investor's Advanvtage ... 69.47
- It's Only Rock & Roll ... 20.82
- J Forth Pro ... 128.00
- Jack Nickalaus Golf ... 34.72
- Jet ... 34.72
- Jet Set Laser Utility ... 27.80
- Jewels of Darkness ... 9.00
- ■ **Jigsaw ... CALL**
- ■ **Jinks ... CALL**
- Jinxter ... 27.77
- Joe Blade ... 24.29
- Joker Poker ... 34.72
- Kampfgruppe ... 41.67
- Kara Fonts-Headlines ... 51.00
- Karate Kid II ... 27.77
- Karting Grandprix ... 17.34
- KCS 1.6 ... 173.06
- Key to C ... 24.29
- Kidtalk ... 27.00
- Kikugi ... 18.00
- Kinderama ... 34.72
- Kindwords ... 69.47
- King of Chicago ... 34.72
- Kingdoms of England ... 34.72
- Kings Quest I ... 34.72
- Kings Quest II ... 34.72
- Kings Quest III ... 34.72
- Knight Orc ... 31.24
- Lancelot ... 28.00
- Laser Up! Fonts Vol. 1 ... 38.23
- Laser Up! Plot 1.2 ... 30.58
- Laser Up! Print 1.2 ... 68.81
- Laser Up! Util. Vol. 1 ... 30.58
- Lattice C++ ... 340.00
- Lattice C 5.0 ... 208.50
- Lazerscript ... 31.24
- Leader Board Dual Pack ... 24.29
- Leader Board Golf ... 27.77
- Leader Board Tournament Disk ... 13.87
- Leathernecks ... 27.77
- Leisure Suit Larry ... 27.77
- Lights! Camera! Action ... 55.57
- Linkword-All Lang. (ea.) ... 20.82
- Lint ... 68.11
- Logic Works 2.0 ... 189.00
- Logistix ... 103.56
- ■ **Lords of the Rising Sun ... CALL**
- Lurking Horror ... 27.77
- M Intelligent Music ... 144.00
- ■ **Magic Johnson Basketball ... CALL**
- Marauder II ... 27.77
- Marble Madness ... 34.72
- Master Ninja ... 31.00
- Mastering CLI ... 26.00
- Masterpiece Font (20 Disks) ... 167.00
- Math Concepts ... 13.87
- Math Magician ... 27.79
- Math-A-Mation ... 69.47
- Maxiplan 500 ... 103.56
- Maxiplan Plus ... 138.31
- Mean 18 ... 31.24
- Mean 18 Course Disk ... 15.00
- Mean 18 Course Disk II ... 15.00
- Metacomco Shell ... 49.00
- Metacomco Toolkit ... 35.00
- Metascope Debugger ... 61.00
- Microfiche Filer ... 68.81
- Microfiche Filer Plus ... 124.41
- Microlawyer ... 41.67
- MIDI Magic ... 104.22
- MIDI Vu ... 27.77
- Mindshadow ... 31.24
- MindWalker ... 34.72
- Moebius ... 41.67
- ■ **Money Mentor ... 59.00**
- Movie Setter ... 69.47
- Multi-Forth ... 61.86
- ■ **Multi-Port 2000 ... 173.72**
- Multi-Prefs ... 20.82
- Murder on the Atlantic ... 24.29
- Music Mouse ... 54.91
- Music Student ... 41.67
- Music Studio 2.0 ... 55.57
- My Paint ... 34.72
- Nag Plus 3.0 ... 55.57
- Ninja Mission ... 13.87
- NTF Fonts, Comic ... 55.57
- NTF Fonts, Fancy ... 55.57
- NTF Fonts, Roman ... 55.57
- NTF Fonts, Sans Serif ... 55.57
- Obliterator ... 27.77
- Of the Flesh ... 27.77
- Offshore Warrior ... 27.77
- On-Line 2.0 ... 48.62
- ■ **Operation Wolf ... CALL**
- Opticks ... 138.97
- Organize ... 55.57
- Orge ... 20.82
- ■ **Oswald ... CALL**
- OTG DSM (disassembler) ... 44.00
- Out Run ... 34.72
- Page Flipper ... 34.72
- ■ **Page Flipper Plus F/X ... 102.00**
- PageRender 3D ... 111.17
- PageSetter ... 104.22
- PageSetter Help ... 24.29
- Paladin ... 27.77
- Paladin Quest Disk ... 17.34
- Paladin Scenerio ... 17.34
- Pas2Mod ... 69.47
- ■ **Pascal ... 138.97**
- Pawn, The ... 17.34
- Paymaster Plus ... 104.22
- PDQ Pascal ... 48.62
- Pen Pal ... 104.22
- Perfect Score S.A.T. ... 55.57
- Performer (Elan) ... 39.00
- Phantasie ... 27.77
- Phantasie III ... 27.77
- Phantasm ... 24.29
- Phasar — Final Management ... 69.47
- Photon Cel Animator ... 98.00
- Photon Paint ... 63.00
- ■ **Photon Paint II ... 98.00**
- Photon Paint Surface Disk ... 20.82
- Photo Video ... CALL
- Photon Video Transport Cont ... 189.00
- Photosynthesis ... 98.00
- Pinball I.Q. ... 17.34
- PIXmate ... 48.62
- Platoon ... 31.24
- Police Quest I ... 34.72
- ■ **Populous ... CALL**
- Ports of Call ... 20.82
- Power Styx ... 24.29
- ■ **Powerdrome ... CALL**
- Pre Calculus ... 34.72
- President Is Missing ... 27.77
- Print Master Plus ... 31.00
- Prison ... 27.77
- Pro MIDI Studio ... 131.00
- ■ **Pro Video Gold ... 193.00**
- ■ **Professional Draw ... 138.97**
- Professional Page ... 235.00
- Project D ... 34.72
- ■ **Project Master ... CALL**
- Promise: Spelling Checker ... 34.74
- ProScript ... 34.72
- ■ **Prospector ... CALL**
- ProWrite 2.0 ... 77.00
- Publisher's Choice ... 129.00
- Quadralien ... 20.00
- Quarterback ... 44.00
- Questron II ... 34.72
- Quick Merge ... 38.00
- Quintettes ... 31.24
- Rampage ... 27.77
- Raw Copy 1.3 ... 41.67
- Reach For The Stars ... 28.00
- Read-A-Rama ... 34.72
- Realm of the Warlock ... 24.29
- Reel Fishin' ... 31.00
- Renegade ... 25.00
- Return to Atlantis ... 32.00
- ■ **Rhyming Notebook ... CALL**
- Roadwar 2000 ... 27.77
- Roadwar Europa ... 31.24
- ■ **Robbeary ... 17.00**
- ■ **Robocop ... CALL**
- Rock Challenge ... 25.00
- Rocket Ranger ... 32.00
- Rockford ... 23.00
- Roger Rabbit ... 31.24
- Romantic Encounters/Dome ... 27.77
- Sampleware/Digital ... 16.88
- Sampleware/Grab Bag ... 16.88
- Sampleware/Orchestral ... 16.88
- Sampleware/Rock ... 16.88
- Sargon III ... 34.72
- Scary Mutants ... 27.77
- Scenery Disk 7 ... 17.34
- Scenery Disk 11 ... 17.34
- Scrabble ... 28.00
- Sculpt 3D ... 69.47
- ■ **Sculpt 3D XL ... CALL**
- Sculpt/Animate 4D ... 391.00
- Sculpt/Animate Jr. ... 41.67
- SDI ... 34.72
- Techno Cop ... 34.72
- TeleEpic ... 26.00
- TeleGames ... 24.29
- TeleWars ... 24.00
- Tera Questron ... 27.77
- Terrorpods ... 27.77
- ■ **Test Drive II ... 31.24**
- Tetris ... 24.29
- Textcraft Plus ... 34.72
- Thexder ... 24.29
- Thinker ... 38.00
- Three Little Pigs ... 20.82
- ■ **Three Stooges, The ... 34.72**
- Thunder Boy ... 24.29
- Thunderblade ... 34.72
- ■ **Tiger Road ... CALL**
- Time & Magik ... 27.00

CALL ON SUNDAY AND ASK ABOUT SUNDAY SPECIALS!

- Securities Analyst ... 50.00
- Sex Vixens From Space ... 27.77
- Shadowgate ... 34.72
- Shakespeare ... 156.38
- Shanghai ... 27.77
- Sherlock ... 27.77
- Shogun ... 41.67
- Silent Service ... 27.77
- Silver 3-D ... 118.12
- Sim City ... 31.24
- Sinbad & Falcon ... 34.72
- Skyblaster ... 24.29
- Skychase ... 27.77
- Skyfox II: Cygnus Conflict ... 34.72
- Softwood File SG ... 78.00
- Solitair ... 24.29
- ■ **Sonix ... 40.00**
- ■ **Sonix SoundTrax Vol. I ... 13.87**
- ■ **Sonix SoundTrax Vol. II ... 13.87**
- Sorting & Searching ... 34.72
- Sound Oasis ... 64.00
- Soundlab ... 202.00
- SoundQuest — ALL (ea) ... 104.25
- SoundScape Pattern Splat ... 34.00
- SoundScape Utilities I ... 34.00
- SoundScape Utilities II ... 42.00
- Source Level Debugger ... 52.13
- Space Battle ... 13.87
- Space Cutter ... 20.82
- Space Harrier ... 34.72
- Space Math ... 34.72
- Space Port ... 31.24
- Space Quest II ... 34.72
- Space Racer ... 27.77
- Space School Simulator ... 24.29
- Space Station ... 10.00
- Space Station Oblivion ... 32.00
- Spellbound ... 27.77
- Star Wars ... 27.77
- Starglider II ... 31.24
- Stellar Conflict ... 27.77
- Strip Poker II ... 27.77
- Strip Poker Data #4 ... 13.87
- Strip Poker Data #5 ... 13.87
- Studio Fonts I ... 30.00
- Studio Magic ... 69.47
- Sub Battle ... 23.00
- Superbase Personal II ... 98.00
- ■ **Superbase Pro. 3.0 ... 198.00**
- Superplan ... 98.00
- Superstar Ice Hockey ... 34.72
- Swords of Sodan ... 27.77
- Synthia ... 63.00
- T Shell ... 32.00
- Tales From Arabian Knights ... 34.72
- Talking Animator ... 39.00
- Talking Coloring Book ... 19.00
- Tanglewood ... 27.77
- Time Bandit ... 25.00
- Titan ... 31.24
- Tool Caddy ... 32.00
- Tower Toppler ... 32.00
- Transcript ... 48.62
- Transputer ... 24.29
- Trigonometry ... 36.88
- Turbo Print ... 32.00
- Turbo Silver 3.0 ... 128.00
- Turbo Silver Terrain ... 19.88
- TV Show ... 63.00
- ■ **TV Sports Football ... 34.72**
- TV Text ... 55.00
- Twilight Zone ... 27.77
- TXED Plus ... 51.00
- UCSD Pascal ... 69.47
- UCSD Pascal Prof. Pak ... 138.97
- Ugly Duckling ... 20.82
- Ultima III ... 27.77
- Ultima IV ... 41.67
- ■ **Ultra Design ... 277.97**
- Ultra DOS ... 38.00
- UMS Civil War Data Disk ... 13.87
- UMS Viet Nam Data Disk ... 13.87
- Uninvited ... 34.72
- ■ **Universal Military Simulat. ... 34.72**
- ■ **Universe 3 ... 34.72**
- Vampire's Empire ... 31.24
- Video Effects 3D ... 138.97
- Video Vegas ... 24.29
- VideoScape 3D ... 109.00
- VideoTitler ... 89.00
- VIP Professional ... 104.22
- Viper ... 20.82
- Virus ... 20.82
- Virus Infection Prot. (VIP) ... 34.72
- War In Middle Earth ... 34.72
- ■ **Wayne Gretzky Hockey ... 32.00**
- WBExtras ... 27.77
- Willow ... 34.72
- Window Print II ... 23.00
- Winter Games ... 27.77
- Word Master ... 34.72
- Word Perfect ... 243.25
- Word Perfect Library ... 79.93
- Works Platinum, The ... 205.69
- World Class Leaderboard ... 27.77
- ■ **World Trophy Soccer ... CALL**
- Write 'n File ... 69.47
- WShell ... 34.72
- X-CAD ... 291.00
- ■ **Zak McKracken ... 31.24**
- Zero Gravity ... 20.82
- Zing! ... 55.57
- ■ **Zoetrope ... 88.00**
- Zoom ... 24.29
- Zork Trilogy ... 48.62
- Zuma Fonts Vol. 1-3 (ea) ... 24.29

SHIPPING IS FREE!*

7-Day Software is open *7-days a week* for your shopping convenience! Call us for our Sunday Specials.

OUR POLICY:

- Over 1,000 products offered. If you don't see it listed, please ask!
- Visa and Mastercard accepted. No surcharge.
- Your credit card is not charged until we ship your order.
- If we must ship a partial order, we'll pay the shipping costs to complete the order.
- Upon receipt and approval, personal and company checks may clear within 3 business days.
- Orders received prior to 2:00 p.m. PST will be shipped the same day barring computer failure or other catastrophe.
- Orders received on Saturday after 2:00 p.m. PST and Sunday, will ship on the following business day.
- All orders are insured at no charge.

***SHIPPING INFORMATION:**

All orders delivered to addresses within the continental United States with a purchase value of $100 U.S. (or more) are shipped FREE via our choice of carrier. Overnight and other special shipping is available. Ask for details. No surcharge for Visa or Mastercard orders. Educational and corporate purchase orders welcome. Overnight and 2nd-day available. C.O.D. orders are for cash, cashier's check or money order only. C.O.D.: add $2.50 per product. California residents add 6.5% sales tax.

WE SHIP BY: FEDERAL EXPRESS AND UPS

International shipping — NO PROBLEM!

7-DAY ACCEPTS PAYMENT BY:





1-800-525-7DAY

Why Pay retail? CALL and SAVE MONEY 7-DAYS A WEEK!

7-Day Software tries to carry quality products. No warranties or representations as to the quality or usability of the products are made. It is the responsibility of the Manufacturer to provide support for its products. **7-Day Software** will gladly replace damaged merchandise at no charge. Call for details.

a button used to trigger the device. To get to the button you have to drill a small hole in your Amiga's case and mount the button through the hole.

Once GOMF! is in place, you can start dealing with those awful unrecoverable task errors. The GOMF! hardware also lets you step past the part of a program that summoned the Guru. You can sometimes even regain control of your Amiga when it seems to be totally hung.

GOMF! also includes a program, Nuke, that allows you to kill any program. Nuke can be quite useful when a program hangs and you still have control of your Amiga.

The biggest drawback of both GOMF! and Nuke is that neither works in all cases—which, while understandable, can be frustrating. Even when they do work, these tools often cannot free all of the resources of the offending program. They usually work well enough, however, that you can save your other work and recover from an apparently hopeless situation.

If you are concerned about Guru visitations, then we recommend you buy the GOMF! software. If you are a developer, or if you do not mind the the extra $35 investment, go for the hardware, too.

While some of the utilities covered in this two-part series proved less than satisfactory or only of limited appeal, a few of the others were genuinely helpful and demonstrated that there is a real market for such programs. Taken together, all the programs reflect signs of the Amiga's growing maturity. ■

Bill Catchings and Mark L. Van Name are contributing editors to AmigaWorld. *Write to them at 10024 Sycamore Rd., Durham, NC 27703.*

Manufacturers' Addresses

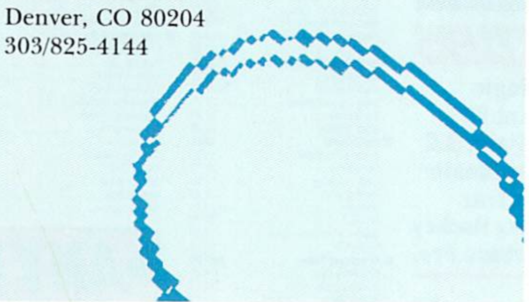
Abacus
5370 52nd St. S.E.
Grand Rapids, MI 49508
616/698-0330

ASDG Inc.
925 Stewart St.
Madison, WI 53713
608/273-6585

Hypertek/Silicon Springs Development Corp.
812 Surrey St.
New Westminster, BC
Canada V3L 4W2
604/524-1125
800/663-9826

Jumpdisk
1493 Mountain View Ave.
Chico, CA 95926
916/343-7658

Progressive Peripherals & Software Inc.
464 Kalamath St.
Denver, CO 80204
303/825-4144



DEALERS SELL

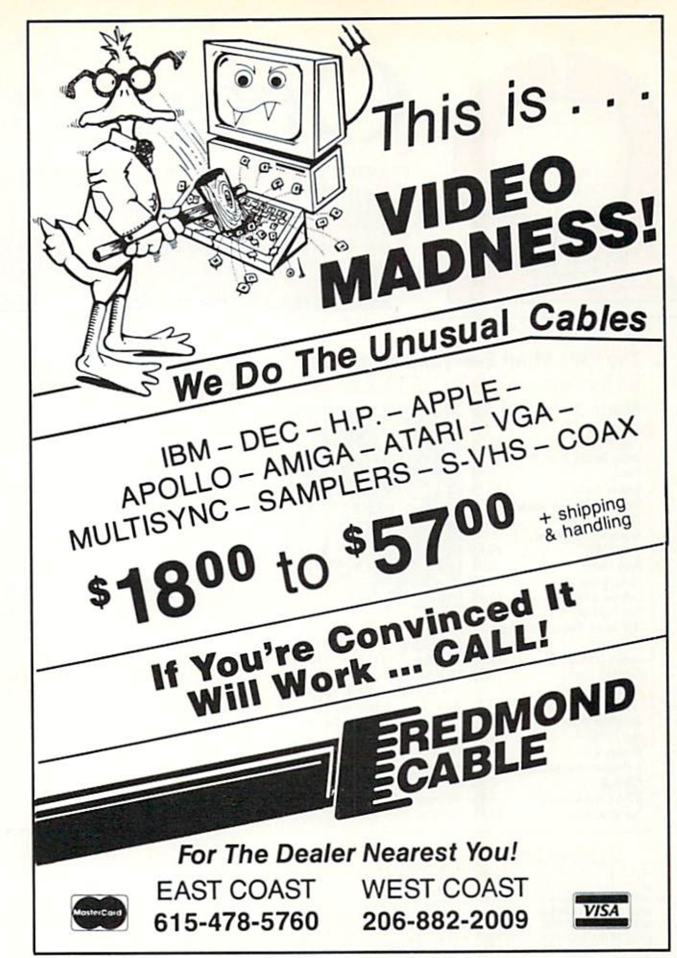
Selling AmigaWorld will make money for you. Consider the facts:

Fact #1: Selling AmigaWorld increases store traffic—our dealers tell us that AmigaWorld is the hottest-selling computer magazine on the newsstands.

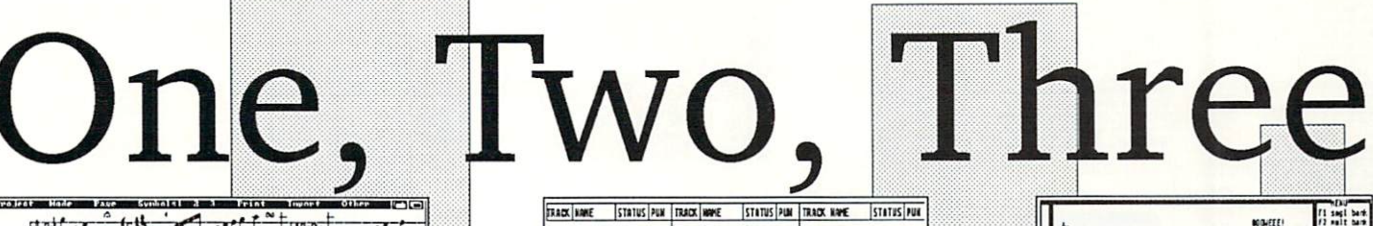
Fact #2: There is a direct correlation between store traffic and sales—increase the number of people coming through your door and you'll increase sales.

Fact #3: Fact #1 + Fact #2 = INCREASED ALE, which means money for you. And that's a fact.

For information on selling AmigaWorld, call 1-800-343-0728 and speak with our Direct Sales Manager. Or write to AmigaWorld, Direct Sales Dept., 80 Elm St., Peterborough, NH 03458.

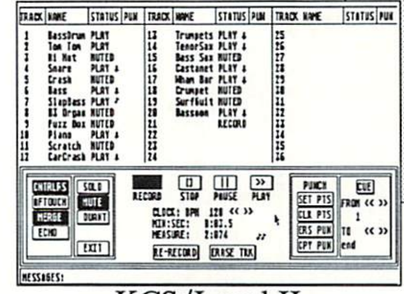


Circle 113 on Reader Service card.

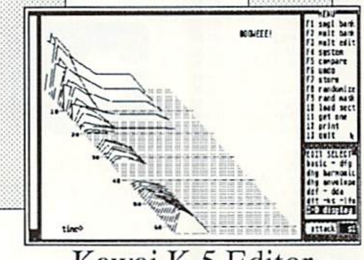




Copyist Professional



KCS/Level II



Kawai K-5 Editor

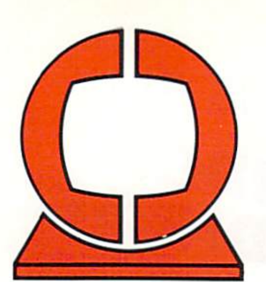
Dr.T's

MUSIC SOFTWARE, Inc.
220 Boylston St. #206
Chestnut Hill, MA 02167
(617) 244-6954

Whether music is your job, or you do it just for fun, we have the music software tools that will help you make music faster and easier than you ever dreamed. And now with the release of the Level II sequencer you can find out just how much of a partner a program can be in creating your music. Try us and see why thousands of Amiga users choose Dr.T's. Call or write for our free catalog.

We define MIDI music software!

Circle 35 on Reader Service card.



Creative Computers

ORDERS ONLY: 800-872-8882 U.S. ORDERS ONLY (including CA) **213-542-2292** CUSTOMER SERVICE OR ORDER STATUS

VISA, MasterCard, American Express, Discover, International Phone and Mail Orders, Educational, Corporate and Aerospace Purchase Orders Accepted.
4453 Redondo Beach Blvd., Lawndale, CA 90260 Mon.-Sat. 8 a.m.-6 p.m. PST FAX: 213-214-0932

The "We Want Everyone's Business" Blow-Out SALE!!!

- **Music-X** ... $149.95
- Deluxe Paint II (reg. $99.95) ... 49.95
- Using Deluxe Paint II (book) ... 19.95
- Deluxe Video II ... 49.95
- Deluxe Paint II & Deluxe Video II (combo) ... 79.95
- Acquisition Database (reg. $395) ... 49.95
- Dark Castle ... 9.95
- Lurking Horror ... 9.95
- Softwood File II ... 19.95
- Ports of Call ... 19.95
- NTF Fonts (Roman, Sans Serif or Comix) ... 24.95
- Amiga Textcraft Plus ... 29.95
- Graphics Studio ... 19.95
- Forms In Flight II (3D animation, very powerful, incredible value— reg. $179) ... 49.95
- Gizmos 2.0 ... 9.95
- Activision Championship Football ... 9.95
- GO-64 (C-64 emul.) ... 9.95
- MaxiPlan Plus ... 89.95



- Money Mentor ... 19.95
- Evil Garden ... 14.95
- Joe Blade ... 14.95
- Mind Walker ... 9.95
- Cubemaster by ASDG, Slaygon, Deep Space, Arena, War Zone, Space Station or Fire Blaster (ea.) ... 5.00

These items are available for the indicated special prices only if ordered with any other regular item. Minimum order $20.00.
WHILE SUPPLY LASTS!

HARDWARE

- 68020-12 CPU/PROCESS ... 170.00
- 68030-16/20 CPU/PROC ... 570.00
- 68881-16 MATH COPROC ... 200.00
- 68881-20 MATH COPROC ... 300.00
- 68882-20 MATH COPROC ... 500.00
- 68882-25 MATH COPROC ... 620.00
- AMAS MIDI SAMPLER ... 109.95
- AMI-X10 ... 46.95
- • AMI-X10 W/HRDW 500/20 ... 114.95
- • AMI-X10 W/HRDWR A1000 ... 114.95
- AMIGA MUSIC PACK ... 0.00
- AMIGEN GENLOCK ... 149.00
- AMPLIFIED SPEAKERS ... 84.95
- APRODRAW 12X12 ... 464.95
- APRODRAW 12X12 W/CUR ... 499.95
- APRODRAW 9X6 ... 379.95
- CA-880 FLOPPY DRIVE ... 199.00
- CMI MIDI 1 (EXT) ... 52.76
- COLOR SPLITTER ... 89.95
- CSA DRAGSTRIP ... 649.00
- CSA FASTTRACK ACCEL ... 799.95
- CSI 2200 ... 149.00
- CSI 3100 SILENT DRIVE ... 159.00
- CSI 3200 SILENT DRIVE ... 169.00
- • CUTTING EDGE MAC DRIV ... 209.95
- DELUXE MIDI INTF. 500 ... 59.95
- DELUXE MIDI INTF. 1000 ... 59.95
- DESKJET 128K RAM CRTG ... 117.95
- DIGI VIEW FOR A1000 ... 143.95
- DIGI VIEW GOLD ... 149.00
- • DUAL SERIAL BOARD ... 199.95
- EASYL 1000 TABLET ... 369.00
- EASYL 2000 TABLET ... 369.00
- EASYL 500 TABLET ... 369.00
- ECE MIDI 1000 ... 48.95
- ECE MIDI 500/2000 ... 48.95
- ESCORT 3.5HD CASE ... 123.50
- ESCORT 48MB HDD A1000 ... 859.00
- ESCORT 48MB HDD A500 ... 859.00
- FLASH CARD ... 199.95
- FRAMEGRABBER ... 539.00
- FUTURE SOUND 500 ... 93.95
- FUTURE SOUND A1000 ... CALL
- GEN-ONE GENLOCK ... 739.00
- GOMF! 3.0 W/BUTTON ... 48.95
- GVP RAM/ROM MOD.W/2MB ... 539.00
- GVP RAM/ROM MODULE ... 69.95
- HURRICANE 1000 ACCEL ... 350.00
- HURRICANE 1000 MEM BD ... 470.00
- HURRICANE 2000 ACCEL ... 470.00
- HURRICANE 2000 MEM BD ... 470.00
- HURRICANE 68030 BRD ... 230.00
- IMPRINT LIQUID LIGHT ... 399.00
- INTRUDER ALERT ... 124.00
- LENS 16MM NO IRIS ... 21.85
- LENS 16MM W/IRIS ... 66.25
- LIGHT PEN ... 97.95
- LIVE! 1000 ... 270.00
- LIVE! 500 ... 289.00
- MAGNI 4004 GENLOCK ... 1595.00
- MAGNI 4010 CONTROLLER ... 299.99
- MICRO MEGS ... 149.95
- MICROB 8UP M.BRD SIMM ... 174.95
- MICROB HARDFRAME SCSI ... 239.95
- MICROB. 8UP DIPP 2MB ... 649.00
- MICROB. 8UP DIPP W/0K ... 174.95
- MICROLINE MW-738 A500 POWER SUPPLY ... 84.95
- MIDGET RACER ... 349.95
- MIDI GOLD 500 ... 64.95
- MIDI GOLD INSIDER ... 68.47
- MIDI INTERFACE CABLE ... 38.00
- MINIMEGS A1000 1MB ... 449.00
- MINIMEGS A1000 2MB ... 749.00
- MINIMEGS A1000 512K ... 299.00
- MINIMEGS A500 1MB ... 449.00
- MINIMEGS A500 2MB ... 749.00
- MINIMEGS A500 512K ... 299.00
- • NEC LC SILENT WRITTER ... 3495.00
- NERIKI GENLOCK ... 1975.00
- OKIMATE 20 W/PLUG'PRT ... 249.00
- OKIMATE PLUG N PRINT ... 79.95
- OMEGA SAMPLER A1000 ... 79.95
- PANASONIC WV1410 ... 225.00
- PANASONIC WV1500 ... 320.00
- PEOPLE METER ... 39.95
- PERFECT SOUND 500/200 ... 67.95
- PERFECT SOUND A1000 ... 67.95
- PERFECT VISION - ALL ... 199.95
- PRO RAM A2000 2/8 MEG ... 699.00
- PRO SOUND DESIGNER ... 119.95
- PROCESSOR ACCEL ... 159.00
- PROGEN GENLOCK ... 399.00
- QUANTUM 40MB HARD DRV ... 599.00
- QUANTUM 80MB HARD DRV ... 995.00
- SOUNDSCAPE MIDI PACK ... 279.95
- SPIRIT DELUXE MIDI ... 214.95
- STAR NX1000 PRINTER ... 195.00
- STAR NX1000 RAINBOW ... 270.00
- STEREO SOUND SAMPLER ... 87.95
- SUPERGEN GENLOCK ... 699.00
- SUPRA 2400 BAUD MODEM ... 149.00
- • SUPRA 2400 INT. MODEM ... 159.95
- TINY TIGER 30MG HRDRV ... 629.00
- TINY TIGER 40MG HRDRV ... 799.00
- TINY TIGER 80MG HRDRV ... 1129.00
- TOOLBOX A1000 ECE2120 ... 230.00
- TRUMP CARD SCSI A2000 ... 170.00
- TWIN DRIVES ... 279.00
- UNIDRIVE ... 169.00



Boing! Mouse

Professional Optical 3-button mouse for your Amiga.

- Optical technology eliminates friction and momentum coefficients for super-precise handling.
- No moving parts for increased reliability.
- Middle button makes it the only mouse compatible with A2024 software and X Windows.
- Compatible with ALL Amiga computers.

SPECIAL PRICE! LIMITED TIME ONLY: $99.95

- VAULT 30MB HARD DRIVE ... 699.00
- VAULT 40MB HARD DRIVE ... 799.00
- VAULT 65MB HARD DRIVE ... 939.00
- VI 2000 RF VIDEO INTF ... 79.95
- VI 2000 VIDEO INTER. ... 69.95
- VI 500 RF VIDEO INTRF ... 69.95
- VI 500 VIDEO INTERF. ... 59.95
- X-SPECS 3D ... 99.95
- XEROX 4020 PRINTER ... 1140.00
- XEROX 4020 STARTER KT ... 156.00
- • ZOOM 2400 BAUD MODEM ... 139.95

GRAPHICS

- 3 DEMON ... 71.95
- 3D GRAPHICS ... 36.13
- 3D OPTIONS ... 32.46
- ACAD TRANSLATOR ... 139.95
- AEGIS ANIMATOR ... 39.95
- AEGIS DRAW 1.4 ... 52.95
- AEGIS DRAW 2000 ... 181.95
- ALOHA FONTS 1 ... 12.95
- ALOHA FONTS 2 ... 12.95
- ALOHA FONTS 3 ... 12.95
- ANALYTIC ART ... 37.48
- ANIM. LIB. CHRISTMAS ... 19.95
- ANIM. LIB. DRAGONS ... 19.95
- ANIMAGIC ... 51.95
- ANIMATION FLIPPER ... 38.95
- ANIMATION ROTOSCOPE ... 51.95
- ANIMATORS APPRENTICE ... 184.95
- ANIMATORS EDITOR ... 38.95
- ANIMATORS EFFECTS ... 32.46
- ANIMATORS MULTIPLANE ... 58.46
- ANIMATORS STAND ... 32.46
- ANIMOTION ... 62.95
- ART COMPANION ... 19.95
- ART GALLERY 1 & 2 ... 25.95
- ART GALLERY FANTASY ... 23.36
- ASHAS CALLIGRA FONTS ... 58.95
- • BOARD MASTER ... 64.95
- • BROADCAST TITLER ... 194.95
- BRUSH WORKS ... 20.95
- BRUSH WORKS 2 ... 22.71
- BUTCHER 2.0 ... 23.13
- C LIGHT ... 38.95
- CAD PARTS 4 INTROCAD ... 16.50
- CALIGARI ... 1495.00
- • CALIGARI CONSUMER ... 164.95
- CALLIGRAPHER ... 84.95
- CHROMA PAINT ... 51.95
- CITYDESK COMPANION ... 19.95
- CLIP ART #1 ... 12.95
- CLIP ART #2 ... 12.95
- CLIP ART #3 ... 12.95
- CLIP ART #4 ... 12.95
- CLIP ART #5 ... 12.95
- CLIP ART #6 ... 12.95
- CLIP ART #7 ... 12.95
- CLIP ART #8 ... 12.95
- COMIC SETTER ... 64.96
- COMICSETTER FUNNYDATA ... 22.95
- COMICSETTER HERO DATA ... 22.95
- COMICSETTER SF DATA ... 22.95
- DELUXE ART PARTS #1 ... 21.95
- DELUXE ART PARTS #2 ... 21.95
- DELUXE MAPS ... 16.95
- DELUXE PAINT ART/UTIL ... 21.95
- DELUXE PHOTO LAB ... 99.95
- DELUXE PRINT ART #1 ... 23.95
- DELUXE PRODUCTIONS ... 139.95
- DEMONSTRATOR ... 21.95
- DESIGN DISKS FOR TURBO SILVER, SCULPT ANIMATE OR VIDEOSCAPE (EA.) ... 22.74
- DESIGN 3D ... 64.95
- DESKTOP ARTIST ... 18.95
- DIGI PAINT 3.0 ... 65.00
- DIGI VIEW UPGRADE ... 13.95
- • DIGIWORKS 3D ... 84.95
- DIRECTOR, THE ... 45.95
- DIRECTORS TOOLKIT ... 24.95
- DLX HLP W/DIGIPAINT ... 21.84
- DLX HLP W/DPAINT II ... 21.84
- DLX HLP W/PHOTON PNT ... 21.95
- DLX HLP W/CALIGRAPHER ... 22.71
- DOUGS COLOR COMMANDER ... 19.46
- DOUGS MATH AQUAR. LIB. ... 9.95
- EXPRESS PAINT 3.0 ... 90.95
- FANCY 3D FONTS ... 46.95
- FANCY 3D FONTS SILVER ... 51.95
- FANTAVISION ... 42.95
- FIF MODULE ... 14.95
- FONT WORKS ... 25.95
- FONTS AND BORDERS ... 22.95
- FORMS IN FLIGHT II ... 79.95
- GALLERY 3-D ... 51.95
- • GOLD DISK FONT SET #1 ... 21.85
- GRABBIT ... 20.95
- • GRAPHICS STARTER KIT ... 84.95
- HAMMANDEL ... 25.95
- HOME BUILDERS CAD ... 129.95
- • HOMETOWN USA ... 25.95
- ICON PAINT ... 58.95
- INTERCHANGE ... 32.46
- INTERCHANGE CONVER ... 16.95
- INTERCHANGE OBJ #1 ... 16.95
- INTERCHANGE TSLV MODL ... 12.96
- INTERFONTS ... 75.36
- INTROCAD ... 49.95
- INVISION ... 99.95
- JET SET FONT SET ... 32.50
- KARA FONTS HEADLINES ... 51.95
- KARA FONTS HEADLINES2 ... 47.95
- KARA FONTS SUBHEADS ... 47.95
- LASER UP! FONTS VOL 1 ... 31.95
- LIGHTS CAMERA ACTION ... 59.95
- LION'S CALLIGRA FONTS ... 58.95
- • MASTERFONTS 3D VOL 1 ... 24.95
- MASTERPIECE FONTS ... 167.95
- MEDIALINE BACKGRND 1 ... 25.95
- MEDIALINE CLIP ART ... 22.95
- MEDIALINE FONTS ... 22.95
- MODELER 3D ... 65.00
- MOVIE SETTER ... 64.95
- NEWSLETTER FONTS COLR ... 29.95
- PAGE FLIPPER ... 31.23
- PAGE FLIPPER PLUS F/X ... 103.95
- PAGE RENDER 3D ... 94.95
- • PAGE STREAM FONTS 1-5 & A-C (ea.) ... 25.95
- PERFORMER (ELAN) ... 38.95
- PHOTON CELL ANIMATOR ... 99.95
- PHOTON PAINT ... 64.96
- PHOTON PAINT 2.0 ... 99.95
- PHOTON PAINT EXP. DSK ... 19.95
- PHOTON TRANSPORTER ... 194.95
- PIXMATE ... 45.95
- PRINT MASTER ART #1 ... 18.73
- PRINT MASTER ART #2 ... 18.73
- PRO FONTS 1 ... 22.95
- PRO FONTS 2 ... 24.95
- • PRO VIDEO GOLD ... 194.95
- PRO VIDEO PLUS ... 184.95
- PROFESSIONAL DRAW ... 129.95
- RESEP (ASDG) ... 54.95
- • SCULPT 3DXL ... 99.95
- • SPRITZ ... 49.95
- • STRUCTURED CLIP ART ... 38.95
- STUDIO FONTS V1 ... 29.95
- TALKING ANIMATOR, THE ... 39.00
- TATE FONTS ... 45.95
- TERRAIN FOR TURBOSILV ... 19.95
- TURBO SILVER 3.0 ... 129.95
- TV SHOW ... 64.95
- TV TEXT ... 62.32

AMAX MAC EMULATOR FOR THE AMIGA!

- AMAX Emulator ... $139
- Mac 128K EPROMS ... $149
- AMIG-a-TOSH 880K floppy disk drive ... $179

COMPLETE PACKAGE! All the above only ... $429

- VIDEO EFFECTS 3D ... 129.96
- VIDEO VISIONS 1 ... 12.95
- VIDEO VISIONS 2 ... 12.95
- VIDEOSCAPE 3D ... 124.95
- VIDEOTITLER ... 99.95
- • XCAD ... 389.95
- XCAD DESIGNER ... 94.95
- ZOETROPE ... 89.95
- ZUMA FONTS 1-4 PACK ... 68.95
- ZUMA FONTS VOL. 1-4 (ea.) ... 22.95

MUSIC

- ADRUM ... 51.98
- AUDIOMASTER ... 37.48
- AUDIOMASTER II ... 64.95
- C-ZAR ... 126.95
- DELUXE MUSIC 2.0 ... 69.95
- DR. T'S 4-OP ED/LIB ... 92.95
- DR. T'S BACH SONGBOOK ... 17.95
- DR. T'S CASIO V21 ... 92.95

The LARGEST International Dealer of AMIGA Products in the WORLD!

OVER 1300 ITEMS

The best NEW products • The LOWEST PRICES
NEW PRODUCTS ARRIVE DAILY. CALL FOR UNLISTED ITEMS.

- DR. T'S COPYIST ... 155.38
- DR. T'S COPYIST II ... 159.95
- DR. T'S CZ CARTRIDGE ... 61.95
- DR. T'S CZ RIDER ... 92.95
- DR. T'S D-110 ED/LIB ... 92.95
- DR. T'S D-50 ED/LIB ... 92.95
- DR. T'S DR. DRUMS ... 17.95
- DR. T'S DR. KEYS ... 17.95
- DR. T'S DX7 ED/LIB ... 92.95
- DR. T'S ESQ-APADE 1 ... 92.95
- DR. T'S KAWAI K-1 ... 92.97
- DR. T'S KAWAI K-5 ... 92.95
- DR. T'S KCS ... 154.95
- DR. T'S KCS LEVEL II ... 219.95
- DR. T'S LEXICON ... 92.95
- DR. T'S MATRIX-6 ... 92.95
- DR. T'S MIDI REC. STD ... 43.50
- DR. T'S MT-32 ED/LIB ... 92.95
- DRUM STUDIO ... 32.47
- DYNAMIC DRUMS ... 49.95
- DYNAMIC STUDIO ... 139.00
- HIT DISK VOL 1 ... 32.46
- HOT & COOL JAZZ ... 21.95
- INSTANT MUSIC 1.2 ... 33.00
- IT'S ONLY ROCK & ROLL ... 21.95

Next day service with— FEDERAL EXPRESS

- Order by 12 noon (P.S.T.) and receive in-stock items the following day.*
- Rates start at $5.00.
- Please call for exact rates and details.

*NOT APPLICABLE TO ALL ITEMS.

- LIFE CYCLES AMIGA ... 19.46
- • M INTELLIGENT MUSIC ... 143.46
- MIDI MAGIC ... 97.95
- MIDIVU ... 29.95
- MUSIC MOUSE ... 51.95
- PRO MIDI STUDIO ... 130.95
- SAMPLEWARE - DIGITAL ... 16.95
- SAMPLEWARE - GRAB BAG ... 16.95
- SAMPLEWARE - ORCHESTR ... 16.95
- SAMPLEWARE - ROCK ... 16.95
- SONIX ... 49.95
- SOUND OASIS ... 64.95
- SOUNDLAB ... 209.95
- SOUNDQUEST EDITORS AND LIBRARIANS (call for prices and availability) ... CALL
- SOUNDSCAPE PATTERN SPLT ... 35.95
- SOUNDSCAPE UTIL. I ... 35.95
- SOUNDSCAPE UTIL. II ... 42.95
- STUDIO MAGIC ... 64.95
- SYNTHIA ... 59.95
- ZOUND SOUNDS VOL 1 ... 21.95

EDUCATIONAL

- A B ZOO ... 25.99
- ADVENTURES OF SINBAD ... 32.46
- AESOP'S FABLES ... 19.95
- ALGEBRA I ... 36.95
- ALGEBRA II ... 32.46
- ALL ABOUT AMERICA ... 38.95
- ANIMAL KINGDOM ... 32.46
- BASIC GRAMMER SERIES ... 19.46
- BOOMERAID ... 32.46
- CALCULUS ... 36.95
- CAPITALIZATION SERIES ... 19.46
- CHICKEN LITTLE ... 19.95
- CROSSWORD CREATOR ... 34.95
- DECIMAL DUNGEON ... 32.46
- DES CARTES ... 22.95
- DESIGNASAURUS ... 32.46
- • DINOSAUR DISCOVERY KT ... 27.95
- • DINOSAURS ARE FOREVER ... 25.95
- • DISCOVER ALPHABET ... 14.95
- • DISCOVER CHEMISTRY ... 14.95
- • DISCOVER HISTORY/GEO ... 14.95
- • DISCOVER MATH ... 14.95
- DISCOVER NUMBERS ... 14.95
- DISCOVERY DATA DISKS (EA.) ... 12.97
- DISCOVERY W/MATH ... 25.00
- DISCOVERY W/SPELLING ... 25.00
- DISCOVERY W/TRIVIA ... 25.00
- DISCRETE MATHEMATICS ... 36.95
- EXPLORER, THE ... 36.95
- FIRST LETTERS & WORDS ... 33.00
- FIRST SHAPES ... 33.00
- FRACTION ACTION ... 32.46
- GALILEO 2.0 ... 45.46
- GEOMETRIC LIBRARY ... 11.95
- GRADE MANAGER ... 58.95
- GREAT STATES II ... 25.95
- INTELLITYPE ... 35.95
- KIDTALK ... 27.95
- KINDERAMA ... 32.46
- LEARNING CURVE ... 51.95
- LEARNING THE ALPHABET ... 19.46
- LINKWORD DUTCH ... 20.55
- LINKWORD FRENCH ... 20.55
- LINKWORD GERMAN ... 20.55
- LINKWORD GREEK ... 20.55
- LINKWORD ITALIAN ... 20.55
- LINKWORD PORTUGUESE ... 20.55
- LINKWORD RUSSIAN ... 20.55
- LINKWORD SPANISH ... 20.55
- LOTTO PROGRAM ... 19.95
- MAD LIBS ... 12.48
- MAGICAL MYTHS ... 32.46
- MAGICIANS DUNGEON ... 0.00
- MASTERING CLI ... 25.95
- MATCH IT ... 25.95
- MATH MAGICIAN ... 27.49
- MATH TALK ... 31.95
- MATH TALK FRACTIONS ... 26.95
- MATH WIZARD ... 32.46
- MATH-AMATION ... 64.95
- MAVIS BEACON TYPING ... 30.89
- MOTHER GOOSE ... 19.95
- MUSIC STUDENT ... 37.95
- MY PAINT ... 32.47
- PERFECT SCORE ... 54.95
- PHOTOSYSNTHESIS ... 97.95
- PINBALL I.Q. ... 19.46
- PLANET PROBE ... 19.95
- PRE CALCULUS ... 36.95
- PROBABILITY THEORY ... 36.95
- PUNCTUATION SERIES ... 19.46
- PUZZLE STORYBOOK ... 27.95
- QUIZ MASTER ... 49.95
- QUIZAM ... 23.10
- REACH FOR THE STARS ... 27.95
- READ & RYME ... 31.95
- READ-A-RAMA ... 32.46
- ROCK CHALLENGE ... 25.95
- RR AESOP'S FABLES ... 19.95
- RR LITTLE RED HEN ... 19.95
- RR THREE LITTLE BEARS ... 19.95
- RR THREE LITTLE PIGS ... 19.95
- RR UGLY DUCKLING ... 19.45
- SMOOTH TALKER ... 33.95
- SOCIAL STUDIES VOCAB. ... 19.46
- SPACE MATH ... 29.95
- SPELLBOUND ... 25.95
- SPELLER BEE ... 33.00
- SPELLING IMPROVEMENT ... 25.95
- TALES FROM ARABIAN NT ... 32.46
- TALKING COLORING BOOK ... 18.95
- TRANSCONT. RAILROAD ... 25.95
- TRIGONOMETRY ... 36.95
- TRUEBASIC ARITHMETIC ... 45.96
- TRUEBASIC TRUE STATS ... 32.46
- TYPING TUTOR WRD INV ... 22.95
- UNCLE D CONSNDTRATION ... 25.97
- VOCAB. IMPROV. TUTOR ... 19.46
- • WHERE IN THE WORLD ... 31.95
- WORD MASTER ... 32.46

BUSINESS/ PRODUCTIVITY

- ACCOUNTANT, THE ... 186.95
- ANALYZE 2.0 ... 93.73
- ATALK III ... 64.97
- AWARD MAKER - EDUC ... 19.95
- AWARD MAKER - SPORTS ... 19.95
- AWARD MAKER PLUS ... 31.16
- BECKER TEXT ... 99.95
- BEST BUSINESS MGMT ... 354.95
- BLACK BOOK ... 23.50
- • BUDGETEER ... 32.46
- BUMPER STICKER MAKER ... 37.95
- BUTTON & BADGE MAKER ... 38.95
- CELEBRITY COOKBOOK ... 22.95
- COOKBOOK - DESSERT ... 9.95
- COOKBOOK - VARIETY ... 9.95
- DATA RETRIEVE ... 49.95
- DATA RETRIEVE PROFESS ... 211.95
- DB-MAN INTERPETER 3.0 ... 129.95
- DESIGNER DBASE BUSI ... 45.95
- DESIGNER DBASE HOME 1 ... 25.95
- DESKTOP BUDGET ... 45.95
- DLX HLP W/PAGESETTER ... 22.95
- • EASY LEDGERS ... 189.95
- • EXCELLENCE (1 MB VER) ... 159.00
- FAMILY TREE ... 32.46
- FLEET CHECK ... 25.96
- FLOW ... 62.32
- • FORMATION ... 45.95
- GOLD SPELL II ... 29.95
- IMPACT ... 62.46
- INVESTOR'S ADVANTAGE ... 64.95
- KINDWORDS ... 64.95
- LEXCHECK ... 26.85
- LOTTO PROB. GENERATOR ... 19.48
- MAXIPLAN 500 ... 93.95
- MAXIPLAN PLUS ... 124.95
- MICROFICHE FILER ... 69.95
- MICROFICHE FILER PLUS ... 116.95
- MICROLAWYER ... 37.95
- MONEY MENTOR ... 64.95
- • NORGEN GENEALOGICAL ... 32.40
- NUTRIFAX ... 37.95
- ORGANIZE ... 62.32
- PAGE STREAM ... 129.95
- PHASAR ... 62.48
- • PRO. PAGE TEMPLATES ... 38.95
- • PROFESSIONAL PAGE V 1.2 ... 229.00
- PROJECT MASTER ... 129.95
- PROSCRIPT ... 32.95
- PROWRITE 2.0 ... 78.10
- PUBLISHERS CHOICE ... 129.95
- RECIPE FAX ... 24.95
- • SCRIBBLE PLATINUM ... 97.95
- SECURITIES ANALYST ... 49.95
- SHAKESPEARE ... 146.95
- SOFTWOOD FILE SG ... 78.21
- SUPERBASE ... 93.73
- SUPERBASE PERS. II ... 94.46
- SUPERBASE PROF. III ... 209.95
- SUPERPLAN ... 99.95
- TAX BREAK ... 51.95
- • THINKER ... 38.95
- • TRANSCRIPT ... 45.95
- WHO WHAT WHERE WHEN ... 64.95
- WORD PERFECT ... 179.00
- WORD PERFECT LIBRARY ... 84.95
- WORKS PALTINUM ... 191.95
- ZING! SPELL ... 57.95

PROGRAMMING/ UTILITIES

- 64 EMULATOR 2 ... 49.95
- A-TALK PLUS ... 51.95
- AC BASIC ... 134.06
- AC FORTRAN ... 199.00
- • AM KIT ... 25.95
- • AMI ALIGNMENT SYSTEM ... 32.46
- • AMIGA DOS TOOLBOX ... 38.95
- • ANTI-VIRUS ... 25.96
- AREXX ... 32.95
- ASSEMPRO ... 71.95
- ATREDES (BBS) ... 97.46
- AZTEC 68/AM-DEVELOPER ... 194.95
- AZTEC C PROFESSIONAL ... 129.95
- • B.A.D DISK OPTIMIZER ... 32.46
- BBS PC ... 62.32
- BENCHMARK C LIBRARY ... 64.95
- BENCHMARK IFF LIBRARY ... 64.95
- BENCHMARK MODULA-2 ... 129.95
- BENCHMARK SIMPLE LIBR ... 64.95
- CAPE 68K ASSEM 2.0 ... 58.47
- CB TREE PLUS ... 64.95
- CLI MATE ... 24.95
- CUSTOMS SCREENS ... 43.73
- CYGNUS ED PROF ... 64.95
- DEV DISK - ASSORTED ... 7.95
- DEVELOPERS TOOLKIT ... 36.95
- DEVPAC AMIGA ASSEMBLR ... 129.95
- DIGA - TELECOMM ... 49.98
- DISK MAGIC ... 32.46
- DISK MECHANIC, THE ... 58.50
- DISK TO DISK ... 34.95
- DISK WICK ... 32.46
- • DISKMASTER ... 37.95
- DOS LAB ... 16.25
- DOS TO DOS ... 37.95
- DOUG'S MATH AQUARIUM ... 51.95
- ENCORE ... 45.95

4 MORE REASONS WHY YOU SHOULD SHOP AT — CREATIVE COMPUTERS

1. OUR NEW MINI-COMPUTER ASSURES YOU:
   - IMMEDIATE CUSTOMER SERVICE AND ORDER STATUS
   - ADVANCED INVENTORY CONTROL AND ORDERING MINIMIZING BACK ORDERS AND DELAYS.
2. NOW WITH EVEN LARGER FACILITIES AND TWICE THE STAFF.
3. THE BEST AMIGA SERVICE CENTER ANYWHERE!
4. CALIFORNIA AND U.S. TOLL-FREE ORDERING!

- EXPRESS COPY ... 29.95
- EXTEND ... 25.95
- FACC II ... 21.95
- FINE PRINT ... 41.95
- GFA BASIC 3.0 ... 90.95
- GIZMOZ ... 45.95
- GOMF 3.0 ... 27.95
- HISOFT BASIC PROFESSN ... 103.95
- INOVATOOLS I ... 58.47
- JFORTH PROF ... 129.95
- KEY TO "C" ... 22.95
- LASER UP! PLOT 1.2 ... 39.95
- LASER UP! PRINT 1.2 ... 71.95
- LASER UP! UTIL. VOL 1 ... 31.95
- LATTICE "C" 5.0 SYSTEM ... 199.00
- LATTICE C++ ... 299.95
- LAZERSCRIPT ... 28.10
- LINT ... 63.70
- LOGIC WORKS ADVANDCED ... 189.95
- MAGELLAN 2.0 ... 119.00
- MARAUDER II ... 27.47
- METACOMCO ASSEMBLER ... 68.95
- METACOMCO SHELL ... 39.95
- METACOMCO TOOLKIT ... 34.95
- METASCOPE DEBUGGER ... 59.95
- MULTI-FORTH ... 59.95
- MULTI-PREFS ... 19.45
- MURAL PRINTER ... 29.95
- NAG PLUS 3.0 ... 49.95
- • ONLINE PLATINUM ... 64.95
- OTG DSM -DISASSEMBLER ... 43.95
- PCLO ... 199.95
- PCLO+ PRNTD CURCUIT ... 399.95
- POWER WINDOWS 2.5 ... 58.47
- PRINTMASTER ... 31.23
- • PRO BOARD ... 389.95
- PRO NET ... 389.95
- PROJECT D ... 31.95
- • QUARTERBACK ... 45.95
- QUICK MERGE ... 37.95
- RAW COPY 1.3 ... 38.95
- SCHEME ... 199.95
- SOURCE LEVEL DEBUGGER ... 49.96
- SUPERBACK HD UTILITY ... 51.95
- SYSTEMS MONITOR ... 28.95
- T SHELL ... 28.95
- • TOOL CADDY ... 32.46
- TRUE BASIC DEV.TOOLS ... 49.95
- TURBO PRINT ... 32.95
- TXED PLUS ... 51.95
- ULTRA DOS ... 37.95
- VIP VIRUS ... 32.46
- W SHELL ... 31.95
- WBEXTRAS ... 21.95
- WINDOW PRINT II ... 22.95
- • X-COPY ... 25.95
- ZING KEYS ... 31.95

GAMES

- 4x4 OFF ROAD RACING ... 32.46
- 4TH & INCHES CONSTRUC ... 9.95
- 4TH AND INCHES ... 29.24
- AAARGH! ... 23.95
- ACTION FIGHTER ... 25.95
- • ACTION SERVICE ... 25.95

NEW FROM CENTAUR: THE SILENT DRIVE $169

WITH B.A.D ACCELERATOR SOFTWARE (up-to-500% SPEED INCREASE)!

FEATURES: • CSI 3200 • Clickless • Small compact design • Metal case • Compatible with all Amiga computers • Low power consumption • Hinged dust cover • Drive disable switch • 1-year warranty.

ALSO AVAILABLE:
CSI 2200 internal drive for Amiga 2000—100% compatible with same mechanism as Commodore 2010 ... $149.00

[NOTE: • = NEW ITEM.] WE CAN BEAT ANY ADVERTISED PRICE! BUT WE SELDOM HAVE TO—OUR PRICES ARE THE LOWEST! (IF YOU SEE A LOWER PRICE ON AN ITEM, GIVE US A CALL.)

• AFTERBURNER 32.46
AIRBALL 25.95
ALIEN SYNDROME 32.46
ALTERNATE REALITY 27.95
AMIGA KARATE 24.95
ANDROMEDA MISSION 25.95
ANNALS OF ROME 24.95
ARAZOK'S TOMB 31.25
ARCADE ACTION PACK 34.95
ARCHON 13.97
ARKANOID 19.95
ART OF CHESS, THE 22.95
• ARTHUR 32.46
AUNT-ARTIC 25.95
AUTODUEL 27.00
BAAL 22.95
BAD CAT 30.25
BALANCE OF POWER 19.90
BALLIHO 27.47
BALLISTYX 22.95
BARBARIAN 25.95
BARD'S TALE 35.95
BARD'S TALE 2 HINT BK 10.50
BARD'S TALE HINT DISK 13.95
BARD'S TALE II 41.95
• BATMAN 29.95
BATTLE CHESS 32.46
BATTLE HAWKS 38.95
BATTLE SHIP 19.46
BATTLETECH 32.46
BETTER DEAD T/ALIEN 21.95
BEYOND ZORK 33.76
BIONIC COMMANDO 25.97
BLACK CAULDRON 28.95
BLACK JACK ACADEMY 29.95
BLACK LAMP 22.00
BLACK SHADOW 22.95
BLITZKRIEG (1 MEG VR) 38.95
BLITZKRIEG 512 K 34.41
BLOCKBUSTER 32.46
BLOOD MONEY 25.95
BOBO 23.36
BOMB BUSTER 21.95
BREACH 25.95
BREACH SCENARIO DISK 16.95
BRIDGE 5.0 24.10
BUBBLE BOBBLE 22.95
BUBBLE GHOST 22.71
• BUTCHER HILL 25.95
CALIFORNIA CHALLENGE 14.95
CAPONE 25.95
CAPTAIN BLOOD 32.46
CAPTAIN FIZZ 19.95

CREATIVE COMPUTERS RECOMMENDS

Danger Freak 19.95
Pac-Land 19.95
My Paint Data Disk 19.95
Sonix SoundTrax 14.95
Emmanuelle 25.95
Kingdoms of England 24.95
Calif. Games 29.95
Grand Prix Circuit 29.95
I Ludicrus 19.95
Prospector 29.95
Motor Massacre 24.95
Lords of the Rising Sun 29.95
Prof. Techniques for DPaint III (VHS Tape) 24.95
Step-by-step guide to DPaint II features including cel animation, 3D perspectives, etc.

CARRIER COMMAND 30.95
CASINO FEVER 25.95
CENTERFOLD SQUARES 19.95
CHAMPIONSHIP BASEBALL 27.46
CHARON 5 25.96
CHESSMASTER 2000 32.46
CHRONO QUEST 33.95
CLEVER & SMART 22.72
COMBAT COURSE 25.95
COMPUTER HITS VOL. 2 25.95
COSMIC BOUNCER 19.95
• COSMIC PIRATE 25.95
COSMIC RELIEF 24.50
CRAPS ACADEMY 25.95
CRASH GARRET 25.96
CRAZY CARS 25.95
• DARK SIDE 25.95
DATASTORM 25.95
DEATH BRINGER 25.99
DEATH SWORD 19.95
DEFCON 5 25.95
DEFENDER OF THE CROWN 34.95
DEJA VU 34.95
DEJA VU II - LOST VEG 32.46
DEMON'S WINTER 27.95
• DENARIS 24.95



DESTROYER 25.95
DETANATOR 25.97
DISTANT ARMIES 29.95
DOMINOES 16.95
DOUBLE DRAGON 27.95
DRAGON'S LAIR 38.95
DREAM ZONE 32.46
DUNGEON MASTER 32.46
DUNGEON MSTR HINTDISK 12.95
DUNGEON QUEST 32.46
EARL WEAVER BASEBALL 34.95
• EARL WEAVER COMM. DISK 14.95
EARL WEAVER STATS 12.95
EBON STAR 25.96
ELIMINATOR 25.95
• ELITE 32.46
EMETIC SKIMMER 25.96
EMPIRE 34.32
EMPIRE STRIKES BACK 30.25
ENIGMA DEVICE 25.95
ENLIGHTENMENT 15.95
EVIL GARDEN 25.95
EXTENSOR 25.95
• F40 PURSUIT 29.95
FAERYTALE ADVENTURE 31.95
FAERYTALE GUIDEBOOK 7.95
FALCON 32.46
• FAST BREAK 29.95
FERRARI FORMULA ONE 33.95
FINAL ASSAULT 32.46
FINAL MISSION 19.95
FIRE 'N FORGET 25.95
FIRE-BRIGADE 32.46
FIREPOWER 16.95
FIREZONE 23.95
FISH 29.95
FLIGHT SIMULATOR II 37.46
FOOTMAN 21.95
FOUNDATIONS WASTE 23.62
FRIGHT NIGHT 25.96
FROSTBYTE 19.46
FUED 12.95
GALACTIC CONQUERER 29.95
GALACTIC INVISION 0.00
GALAXY FIGHT 9.95
• GALDREGONS DOMAIN 25.95
GAMES WINTER EDITION 32.46
GANYMED 21.95
GAUNTLET II 33.95
GEE BEE AIR RALLY 25.95
GETTYSBURG TURN POINT 40.95
GIGANOID 0.00
GLOBAL COMMANDER 27.46
GOLD RUSH 25.95
GOLDEN PATH 29.95
GOLDRUNNER II 25.95
• GRAND MONSTER SLAM 25.95
GRAND SLAM TENNIS 31.25
GRETZKY HOCKEY 32.46
GRID START 17.95
GRIDIRON W/TEAM DISK 19.95
GUILD OF THIEVES 30.95
GUNSHIP 35.95
GUNSHOOT 22.72
HACKER II 27.46
HARDBALL 28.95
HARRIER COMBAT SIMUL 32.95
HARRIER MISSION 19.95
HEAD COACH 32.46
HEROS OF THE LANCE 27.95
HEROS OF THE LANCE BK 13.95
HEX 25.95

HIGHWAY HAWKS 22.95
HKM 22.95
HOLE IN ONE 25.99
HOLE IN ONE COURSE #3 11.95
HOLLYWOOD POKER 25.95
HOSTAGE 29.95
HUNT FOR RED OCTOBER 34.95
HYBRIS 25.99
HYPERDOME 22.95
IMPOSSIBLE MISSION II 32.46
INDIANNA JONES 25.95
INDOOR SPORTS 31.22
INSANITY FIGHT 25.96
INTERCEPTOR 37.95
INTERNATIONAL SOCCER 25.96
INTO THE EAGLE'S NEST 28.56
• JACK NICKLAUS GOLF 32.46
JET 37.46
• JINKS 19.95
JINXTER 25.95
JOE BLADE 19.95
JOKER POKER 32.46
JOURNEY 32.46
JUG 25.95
KAMPFGRUPPE 41.95
KARATE KID II 25.95
KARATE KING 15.95
KARTING GRAND PRIX 17.95
KENNEDY APPROACH 29.95
KIKSTART 2 14.95
KIKUGI 18.95
KING OF CHICAGO 34.95
KING'S QUEST I 32.95
KING'S QUEST II 32.95
KINGS QUEST 3 HNT DSK 12.95
KINGS QUEST III 32.95
KNIGHT ORC 30.95
• KRISTAL 32.46
LANCELOT 27.95
LAST DUEL 22.95
LAST INCA 25.95
LEADERBOARD COURSES 1 14.95

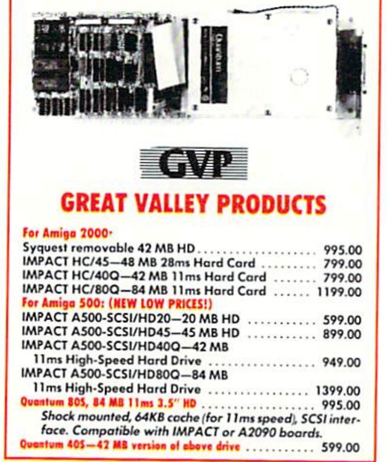
• PURPLE SATURN DAY 32.46
QUADRALIEN 19.95
QUESTRON II 32.46
QUINTETTES 29.95
• RAMBO III 25.95
RAMPAGE 25.95
REAL GHOSTBUSTERS, TH 32.46
REALM OF THE TROLLS 32.46
REALM OF THE WARLOCK 22.74
REBEL CHARGE AT CHK 39.95
REEL FISHIN' 30.88
RENEGADE 22.96
RETURN TO ATLANTIS 34.95
RETURN TO GENESIS 22.95
ROAD RAIDERS 25.96
ROADWAR 2000 27.47
ROADWAR EUROPA 29.95
ROBBEARY 16.21
ROCKET RANGER 32.46
ROCKFORD 23.95
ROMANTIC ENCOUNTER 25.95
• RUNNING MAN 32.46
SARGON III 35.95
• SAVAGE 32.46
SCARY MUTANT ALIENS 25.95
SCENERY DISK # 9 19.95
SCENERY DISK #11 18.72
SCENERY DISK #7 18.71
SCENERY DISK W EUROPE 19.95
SCENERY DISK, EUROPE 17.95
SCENERY DISK, JAPAN 19.95
SCORPION 25.95
SCRABBLE 27.46
SDI - CINIMAWARE GAME 34.95
SECRETS DUNGEON MASTR 9.95
SEX VIXENS FROM SPACE 25.95
SHADOW GATE 31.95
SHANGHAI 27.46
SHERLOCK 27.00
SHOGUN 38.95
SILENT SERVICE 25.95
• SIMCITY 30.95
SINBAD & THE SWORD 29.95
SKY BLASTER 19.95
SKY CHASE 26.95
SKYFOX II 27.46
SLIP STREAM 16.95
SNAKE PIT 24.95
SOLITAIRE ROYAL 22.71
SORCERER LORD 23.95
SPACE CUTTER 19.95
SPACE HARRIER 32.46
SPACE QUEST 33.00
SPACE QUEST II 32.46
SPACE RACER 19.46
SPACE SCHOOL SIM 22.95
SPACESTATION OBLIVION 32.46
SPEEDBALL 25.95
SPIN WORLD 25.95
SPITTING IMAGE 25.95
STAR WARS 25.95
STARFLEET I 39.95
STARGLIDER 30.95
STARGLIDER II 29.95
STARGOOSE 25.95
STARRAY 19.95
STELLAR CONFLICT 28.95
STELLARX 25.95
STOCK MARKET-THE GAME 16.95
STREET CAT 16.95
STREETSPORTS BASKETBL 13.95
STRIP POKER DATA #4 12.95
STRIP POKER DATA #5 12.95
STRIP POKER II 25.95
SUB BATTLE 24.95
SUMMER CHALLENGE 19.95

MORE CREATIVE PROMOTIONS!

2 MB RAM CARD $549.00
(For A2000—Expandable to 8 MB)
AMIGA LIVE! 2000 $349.00
FLICKER FIXER $479.00
(Eliminate all flicker and scanline gaps 100% —optional multisync monitor—A2000 only)

LEADERBOARD DUAL PACK 22.72
LEADERBOARD GOLF GAME 27.00
LEADERBOARD TORN. DSK 13.95
LEATHERNECK 25.95
LEISURE S.LRY HNT DSK 12.95
LEISURE SUIT LARRY 25.95
• LIGHT FORCE 25.95
LOMBARD RALLY 25.95
MAJOR MOTION 25.96
MAN HUNTER - NEW YORK 32.46
MANIAX 16.95
MARBLE MADNESS 33.00
MASTER NINJA 30.95
MEAN 18 COURSE DISK 2 14.95
MEAN 18 GOLF 28.95
MENACE 19.98
• MICKEY MOUSE 25.95
MIGHTY NERD 32.46
MIKE THE MAGIC DRAGON 16.95
MIND ROLL 19.95
MISSION CON-BAT 31.16
MISSION ELEVATOR 34.95
MOEBIUS 25.95
MOUSE QUEST 14.95
NINJA MISSION 30.95
OBLITERATOR 25.95
OFFSHORE WARRIOR 25.96
OGRE 32.46
ONE ON ONE 14.95
OPER. CLEAN STREETS 25.95
• OPERATION NEPTUNE 32.46
OPERATION WOLF 22.95
OUT RUN 32.46
P.O.W. 25.95
PACMANIA 15.95
PALADIN 25.95
PALADIN - QUEST DSK 1 16.86
PAWN, THE 16.21
PHANTASIE 27.47
PHANTASIE 3 24.95
PHANTASM 22.95
PINK PANTHER 28.56
PIONEER PLAGUE 25.96
PLATOON 29.21
PLUTOS 19.48
POKER SOLITAIRE 22.95
POLICE QUEST 32.46
• POPULOUS 34.95
POWERSTYX 22.95
PRESIDENT IS MISSING 25.95
PRIME TIME 25.95
PRISON 25.95
• PRO SOCCER 29.95

SUPER 6 29.95
SUPER CARS 14.95
SUPER HANG-ON 32.44
• SUPERIOR GOLF KIT 9.95
• SUPERMAN 32.46
SUPERSTAR ICE HOCKEY 32.46
SWORDS OF SODAN 32.46
• TALESPIN 32.46
TANGLEWOOD 25.95
• TANK ATTACK 19.95
TARGIS 28.95
TECHNOCOP 32.46
• TEENAGE QUEEN 25.95
TELEEPIC 25.96
TELEGAMES 23.95
TELEWARS II 25.96
TERRORPODS 25.95
TEST DRIVE 34.95
TESTDRIVE II 29.95
TETRA QUEST 25.95
TETRIS 21.80
• THE DEEP 32.46
THEXDER 23.95
THREE STOOGES 35.95
THUNDER BLADE 32.46
THUNDERBOY 22.95
TIGER ROAD 25.95
TIME & MAGIC 26.95
TIME BANDITS 21.95
TITAN 29.95
TOTAL ECLIPSE 25.95
TOWER TOPPLER 32.46
TRACERS 22.95
TRANSPUTOR 22.95
TRIANGO 29.95
TRINITY 25.95
TRIPLEX 25.95
TRUMP CASTLE 25.95
TV SPORTS FOOTBALL 34.95
TWILIGHT ZONE 25.95
TWILIGHT'S RANSOM 19.95
TWILIGHTS RANSOM 19.95
ULTIMA III 28.95
ULTIMA IV 38.96
UMS CIVIL WAR DATADSK 12.95
UMS VIETNAM DATADSK 12.95
UNINVITED 34.95
UNIVERSAL MILITARY SM 32.46
VAMPIRE'S EMPIRE 29.95
VIDEO VEGAS 24.10
• VINDICATORS 25.95
VIRUS (GAME) 19.46
• VORTEX 25.95



VYPER 21.95
• WANDERER 25.95
WAR IN MIDDLE EARTH 36.99
WARLOCK 22.71
WESTERN GAMES 31.95
WHO FRAMED ROGER RABB 29.97
WILLOW 25.95
WINTER CHALLENGE 19.95
WINTER GAME 27.46
WORLD CLASS GOLF 25.97
WORLD GAMES 27.46
• WORLD SNOOKER & OTHER 19.95
WORLD TOUR GOLF 27.45
• WRANGLER 19.95
ZAK MCKRACKEN 29.95
ZANY GOLF 27.95
ZERO GRAVITY 19.46
ZOOM 21.95
ZORK TRILOGY 47.95
ZORK ZERO 38.95
ZYNAPS 23.95

ACCESSORIES

ALLSOP DISKFILE/80 14.95
AMIGA ATHLETIC BAG 24.95
AMIGA BIC LIGHTER 1.95
• AMIGA BRASS KEY RING 3.95
AMIGA CORDUROY CAP 7.95
AMIGA GARMET BAG 34.95
AMIGA GOLF SHIRT 19.95
• AMIGA JACKET 39.50
AMIGA LOGO NOTE PAD! 4.99
• AMIGA MUG 5.78
AMIGA PEN & PENCIL 19.95
AMIGA PLASTIC VISOR 1.95
• AMIGA SWEATSHIRT 14.95
AMIGA T-SHIRT 7.95
AMIGA TERRY VISOR 5.50
AMIGA TIE PINS 4.95
• AMIGA TOWEL 15.95
AMIGA TWILL CAP 7.95
• CABLES (nearly all types available including custom cables) CALL
CARRY BAG FOR A1000 59.95
CARRY BAG FOR A500 52.95
CARRY BAG FOR MONITOR 45.95
CLEANING KIT LARGE 14.95
CLEANING KIT SMALL 7.95
CLEANING KIT SUNCOM 6.95
CONTROL CENTRE A500 71.95
COPY/CAMERA STAND 64.95
CPS 500 POWER SUPLY 74.95
CURTIS DISK FILE 30 7.95
CURTIS DISK FILE 40 8.95
CURTIS DISK FILE 80 14.95
DESKJET BLK CARTRIDGE 15.95
DESKJET COURIER FONTS 62.95
DESKJET DUST COVER 29.95
DESKJET EPSON FX EMUL 62.95
DESKJET HELV 8 &10 PT 79.95
DESKJET HELV ASCII 104.95
DESKJET PRESTIGE ELT. 79.95
DESKJET STAND/ORGNZR 84.95
DESKJET TMS/RMN 8 &10 79.95
DESKJET TMS/RMN ASCII 104.95
DIGI-DROID 69.95
• DISKETTES, 50 PACK 64.95
DUAL GUN ADAPTER 24.95
DUAL JOYSTICK ADAPTOR 10.95
DUST COVER A1000 &MON 13.95
DUST COVER A2000 &MON 11.95
DUST COVER A500 CPU 8.95
• EASYL DISK FOLDER 14.95
EPYX 200XJ JOYSTICK 11.95
EPYX 500XJ JOYSTICK 14.95
ERGO STICK 17.95
FLICKER MASTER 13.95
FLOPPY WALLET 7.95
FOUR PLAYER ADAPTER 11.95
FUJI DISKETTES 19.95
GAME PLAY COMPACT DSK 12.95
JOYSTICK Y ADAPTER 10.95
KALIMAR TEAK 135 DISK 35.95
KALIMAR TEAK 60 DISK 24.95
KEYBOARD SKIN A1000 19.95
KEYBOARD SKIN A2000 19.95
KEYBOARD SKIN A500 19.95
• KRAFT ACE JOYSTICK 5.99
KRAFT MAZEMASTER JSTK 9.95
LASERJET DUST COVER 29.95
LASERJET-2 COURIER 144.50
LASERJET-2 TONER CRTG 104.95
LIGHT GUN, PHASAR 48.95
• MANAGER MOUSE 149.95
MICHTRON DISK FOLDER 10.95
MICRO 50 DISK FILE 8.95
MONITOR STAND & DRAWR 59.95
MOUSE COVER W/GLASSES 5.95
MOUSE MASTER 29.95
MOUSE MATS 6.95
• MY T MOUSE 59.95
PAINTJET BLK CARTRIDG 23.60
PAINTJET COLOR CRTRDG 29.10
PAINTJET CUT PAPER 19.10
PAINTJET DUST COVER 19.95
PAINTJET PAPER CATCH 23.95
PAINTJET PRINTR STAND 66.95
PAINTJET TRANS FILM 54.05
PAINTJET Z-FOLD PAPER 14.95
• POWER STRIP, INTEREX 19.95
POWERPLAYERS JOYSTICK 19.95
PRINT & WEAR 14.95
QUICKSHOT 2 JOYSTICK 12.95
SONY COLOR DISKETTES 22.95
SONY DISK 10 PACK 20.95
• SONY DISK 15 PACK 29.95
• STAR CURSOR JOYSTICK 32.46
STAR NX-1000 RIBBON 6.95
STAR RAINBOW RIBBON 10.95
• SWITCH BOX, AB 34.95
TAC-2 JOYSTICK 10.95
TEAK-TECH 120 32.95
TEAK-TECH 60 26.95
TRACKBALL MOUSE STYLE 39.95
WICO 3-WAY JOYSTICK 25.95
WINNER JOYSTICK 14.95
XEROX 4020 4 PACK INK 19.95
XEROX 4020 MAINT INK 19.95

BOOKS/ MAGAZINES/ VIDEO TAPES

COMPLETE SELECTION OF AMIGA TITLES CALL
1001 THINGS W/AMIGA 11.95
68000 ASSEMBLY LANG 19.95
ADVANCED AMIGA BASIC 16.95
ALTERNATE REAL. HNDBK 6.95
AMAZING COMPUTING 3.95
AMIEXCHANGE 11.95
AMIEXCHANGE SPECIAL 9.95
AMIGA 3D GRAPHIC DISK 11.95
AMIGA 3D GRAPHICS 17.95
AMIGA ASSEMB LNG PROG 16.95
AMIGA BAS. IN & OUT DSK 11.95
AMIGA BASIC IN & OUT 21.95
AMIGA C ADV PROG DISK 11.95
AMIGA C FOR ADV PROG 22.95
AMIGA C FOR BEGINNERS 18.95
AMIGA D DRV IN & OUT DSK 11.95
AMIGA DEV. REF. GUIDE 14.95
AMIGA DOS IN & OUT DSK 11.95
AMIGA DOS INSIDE & OUT 17.95
AMIGA DOS QUICK REF 13.95
AMIGA DOS REF. MANUAL 22.95
AMIGA FOR BEGINNERS 13.95
AMIGA FOR VIDEO 25.95
AMIGA HARDWARE MANUAL 19.95
AMIGA INTUITION MANUAL 19.95
AMIGA MACH LANG DISK 11.95
AMIGA MACHINE LANG 18.95
AMIGA MCH LNG PRG REF 16.95
AMIGA MICROSOFT BASIC 17.95

ASDG DUAL SERIAL BOARD $199

FEATURES: 2 high-speed RS232 serial ports for the Amiga 2000. IBM PC AT style (9-pin) connector for each port. Transfer from 50 to 76,000 BAUD. Complete with Amiga software & full documentation.

AMIGA PROG HANDBK V.1 21.95
AMIGA PROG HNDBK VOL2 21.95
AMIGA RESOURCE 2.95
AMIGA RESOURCE W/DISK 9.95
AMIGA ROM KERNAL:EXEC 19.95
AMIGA ROM KERNAL LIBS 27.95
AMIGA SYS PRG GDE DSK 11.95
AMIGA SYS PROG GUIDE 29.95
AMIGA TRANSACTOR 3.50
AMIGA TRICK & TIP DSK 11.95
AMIGA TRICKS & TIPS 18.95
AMIGA USER 3.50
AMIGA WORLD 3.95
AMIGAZINE 7.95
AMIGOTIMES 8.95
AMNEWS 14.95
BACK TO BASIC 11.95
BALANCE OF POWER - BK 8.51
BARD'S TALE CLUE BOOK 10.95
BARD'S TALE II CLUEBK 10.50
BECOMMING AMIG ARTIST 17.95
BK.INSIDE AMIGA GRPH 16.95
COMPUTE'S AMIGA 2.95
COMPUTER VIRUSES 18.95
COMPUTES 1ST BK AMIGA 15.95
COMPUTES 2ND BK AMIGA 15.95
COMPUTES AMG PRG GUD 16.95
COMPUTES AMIGA APPLIC 17.95
COMPUTES BEGINNER GD 15.95
COMPUTES DOS REF 16.95
COMPUTES INSIDE AMIGA 17.95
COMPUTES KIDS & AMIGA 13.95
COMPUTES MACHINE LANG 18.95
DELUXE PAINT 3 VIDEO 24.95
DESKTOP VIDEO 12.95
ELEMENTARTY AMG BASIC 12.95
ELITE HELPBOOK 6.99
EPYX HINT BOOK 7.95
INFO MAGAZINE 3.95
INSIDE AMIGA W/"C" 21.95
JUMPDISK 9.00
KICKSTART GUIDE AMIGA 19.95
KINGS QUEST III HINTB 12.95
LEARNING "C" 15.95
LEISURE SUIT HINT BK 12.95
MASTERING AMIGA DOS 11.95
MORE TRICKS & TIPS 17.95
MORE TRICKS & TIPS DSK 11.95
MUSIC THROUGH MIDI 16.95
PRESENTING THE AMIGA 14.95
PROF RESULTS DPAINT 2 35.95
PROGMMERS GUIDE AMIGA 21.95
QUEST FOR CLUES 21.95
ROBO CITY NEWS 2.95
SCULPT 3D COOKBOOK 19.46
SENTRY MAGAZINE 3.00
SOLUTIONS IN "C" 16.95
TRUE BASIC PRIMER 18.95
USER GUIDE GRPH,SND,T 16.95
USING DELUXE PAINT 2 16.95

FREE SHIPPING!*

CREATIVE COMPUTERS is both a mail order company with a store's support and three store showrooms with mail order prices. Visit one of our showrooms today. You'll be amazed!

3 RETAIL SHOWROOM LOCATIONS TO SERVE YOU

SANTA MONICA & WESTSIDE: 318 Wilshire Blvd., Santa Monica, CA 90401. Tues.-Sat. 11-7 p.m./Sun. 11-5 p.m./Phone: 213-394-7779

LAWNDALE & SOUTH BAY: 4453 Redondo Beach Blvd., Lawndale, CA 90260. Mon.-Sat. 11-7 p.m./Phone: 213-542-2292

VENTURA, OXNARD & SANTA BARBARA: 2112 E. Thompson Dr., Ventura, CA 93001. Tues.-Sat. 11-7 p.m./Sun. 12-5 p.m./Phone: 805-652-0325

THE CREATIVE COMPUTERS ADVANTAGE:
- The largest dealer of Amiga products in the World
- Three store locations means excellent support
- Amiga-specific—unlike the competition, we don't claim being Amiga specific while selling other brands under another business name
- Best service center
- Uniform low pricing and largest selection, no hidden costs or catches
- We don't charge your card until the product ships

CUSTOMER SERVICE: For technical support call 213-542-2292 from 11 a.m. to 7 p.m. PST for technical questions.






***SHIPPING INFO:** No surcharge for Visa/MasterCard; 4% surcharge for American Express; 1% surcharge for Discover. Shipping within the continental United States for software orders over $100 (U.S.) is FREE. Please call for all other shipping information. Educational, corporate and aerospace purchase orders accepted.

RETURN POLICY: Call Customer Service at (213) 542-2292 for return authorization. All returns without authorization number (RMA#) will be refused. Returned products must be in original condition and packaging. No refund on defective products or products that do not perform satisfactorily. We make no guarantees for product performance.

CONDITIONS: Creative Computers reserves the right to limit the sales of any items to local in-person pick-up only. Prices and availability subject to change without notice.

CREATIVE COMPUTERS IS INTERNATIONAL!

INTERNATIONAL TOLL-FREE ORDERING POLICIES: Minimum order $100 U.S. Orders only please. Absolutely *no* product inquiries, or any shipping inquiries, will be taken over the toll-free phone lines. For any other information, please call (213) 542-2292. We have operators versed in the following languages: English, French, and Spanish, only. Shipping prices vary and are quoted following your order. Payment is made via credit card or electronic fund transfer. For any other information please call our regular toll lines. Federal Express and International Shipping available.

INTERNATIONAL PHONE NUMBERS: Canada 1-800-548-2512; Italy 1678-74086; United Kingdom 0800-89-1178; France 19-0590-1099; W. Germany 01-30-810466; Japan 0031-11-1351; Australia 0014-800-125-712; Netherlands 06-022-8613; Norway 050-12029; Denmark 0434-0297; Switzerland 046-05-3420.

[NOTE: • = NEW ITEM.] WE CAN BEAT ANY ADVERTISED PRICE! BUT WE SELDOM HAVE TO—OUR PRICES ARE THE LOWEST! (IF YOU SEE A LOWER PRICE ON AN ITEM, GIVE US A CALL.)

Circle 199 on Reader Service card.



Pass and Sack

Play football without sweat and pain.

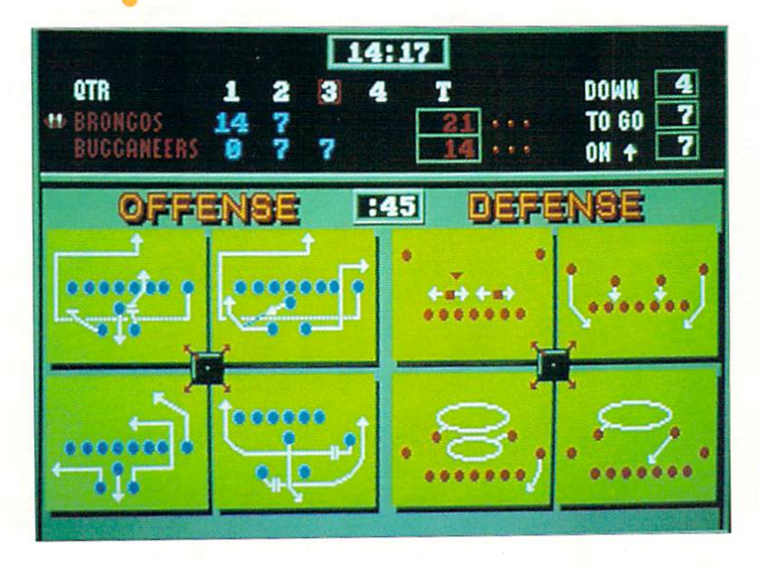
By B.G. Hunter

AH, FALL: LEAVES exploding with color and stadiums exploding with football action. While others just watch the sport and toss back beer, I play it. . .and toss back beer. . .one of the advantages of computer simulations. As a veteran of several seasons (all played in the last few months), I've amassed quite a playbook. First, let's take a look at the scouting reports.

Of the three Amiga football games (4th & Inches, TV Sports: Football, and Gridiron), I liked **4th & Inches** (Accolade, $44.95) the least. Its graphics are pretty bad, more suited to a Nintendo machine or an IBM. The playing field doesn't even scroll. You see about 20 yards of the field as if you were sitting a few rows up in the stands. When the ball leaves this area, the game blanks the screen and then displays the next 20 yards. In the process, it sometimes even changes the player you're controlling! Losing all visual continuity is bad enough, but to find yourself suddenly controlling a new player? Awful idea. As a result, you never feel completely in control of the game. The sparse documentation is little help. That's sad, because the game has enough features that it might be interesting.

Gridiron (Bethesda Softworks, $39.95) has much more attractive, although less realistic, graphics. Instead of seeing men on the field, you view little circles from above. You can, however, see over 50 yards at once, and the screen scrolls nicely when play moves off the current viewing area.

Gridiron's strength is its highly realistic play. The game even calls real penalties—try bumping a receiver before he gets the ball. You can pick from 19 basic plays or design your own. Unlike the other two games, Gridiron lets you handicap the computer, a nice feature when you're just learning the game. You can adjust the computer's handicap as you go, so that you always face a reasonable challenge. (Of course, ►



Call your plays in TV Sports: Football.

you can leave the handicap low if you feel the need to kick some butt.)

By far the most visually impressive of the pack is **TV Sports: Football** (Cinemaware, $44.95, joystick required). Its players look realistic as they run from the bottom of your screen to the top, and the screen scrolls as play moves off the edges.

TV Sports also has many small touches. It's great, for example, that your player will go on without you if you decide to stop controlling him—particularly when you want to run a play that you haven't mastered. I've had a good time just watching the computer play both sides for the better part of a game. Of course, sometimes the nice touches can be too much. Sure, I've stepped offsides once or twice just to see the ref throw a flag, but does the coach have to show up periodically and spit tobacco?

The biggest flaw of TV Sports: Football is that you can't pause it. When those transatlantic safari calls come in I have to take them, which means burning a precious time-out. Still, the game is so visually stunning that you have to buy it.

Team Meeting

All right, it's time to play. My cardinal rule is simple: Don't go for the big play. If you're like me, it's hard to resist the 30-yard bomb; resist it anyway. A screen pass is more likely to succeed. Also, skip the really difficult plays. I started out loving to thread the needle on passes, and I was rewarded with as many as ten interceptions in a game of TV Sports. Similarly, resist the temptation to go for the fake punt, unless it's fourth and short, late in the fourth quarter. The same goes for defense. Don't constantly go for the interception or the sack, unless, of course, you like watching the computer score on you. The other players on your team assume that you're covering your area, and when you leave that area you'll often pay the price.

When you're tempted by the flying tackle in TV Sports, remember: Hard flying tackles might well get you more fumbles, but you'll also miss more tackles. Give up the short yardage to protect yourself from the really big gains.

Speaking of fumbles, you'd better be quick with them in TV Sports. The player who clicks the joystick fastest recovers the fumble. If you wait for the announcer to say "fumble" before you start clicking, you'll never recover one. I click a couple of times after every tackle, just to be safe.

The right overall approach in all of these games is to mix your plays. Don't neglect the run; the Oklahoma Sooners have made a lot of yardage with it, and you can, too. Try steady drives, with a few end runs, a few runs up the middle, some short passes, and the occasional longer pass. Also, go for something unusual every now and then. A simple pass on third and short, or a run on third and long, can often yield great results.

Practice, of course, is crucial. Pick a few plays and run them often enough to get good with them. Gridiron and TV Sports: Football will even let you run through plays in practice.

My personal favorites for Gridiron are the 31 pass (play #10) and the flood pass (#14). I alternate sides of the field with these two to get plenty of running room. With #10, I hit the tight end on the short and out. Then I run #14 as a screen pass, hitting the fullback in the backfield as he runs toward the opposite side of the field. Play #14 works especially well as a screen pass against human opponents: You frequently end up facing a lone defender that the player is controlling. Beating one defender for the long yards is usually a piece of cake. Intersperse these two plays with a few runs and you have the makings of a good drive.

Plays that offer both pass and run options are also good; you can size up the defense before you decide what to do. In TV Sports I usually work from the pro set. My favorite play is the one TV Sports: Football displays in the upper right corner when you're in the pro set. If the defense lines up a three-man front, I hand off and run wide left. Against a run defense I either hit the wide receiver cutting across the field from right to left, or toss it to the back running straight up the middle. All three of these options are usually good for at least four yards. I use the Gridiron halfback option play (#11) similarly. In fact, I liked that play so much that I designed a complementary fullback option that goes in the opposite direction on the field.

Enough already; it's time to sink into the Barcolounger and face the fall football challenge. Hut one, hut two, hike! ►

Although not the type to be caged in an office, B. G. Hunter does skulk in occasionally to pick up his mail. Write to him c/o AmigaWorld, *Editorial Dept., 80 Elm St., Peterborough, NH 03458.*

Manufacturers' Addresses

Accolade
550 S. Winchester Blvd.
Suite 200
San Jose, CA 95128
408/296-8400

Bethesda Softworks
15235 Shady Grove Rd.
Suite 100
Rockville, MD 20850
301/926-8300

Cinemaware Corp.
4165 Thousand Oaks Blvd.
Westlake Village, CA 91362
805/495-6515

Computer Mart

ORDER TOLL FREE

800-443-8236

Info and Pricing: 409-560-2826

Same Low Price

SUPRA 2400 MODEM

$129.00

HAYES COMPATIBLE

300/1200/2400 BAUD

SOFTWARE

Item	Price
3-DEMON	68.00
3D FANCY FONTS	48.00
AAARGH	21.00
AC BASIC	135.00
AC FORTRAN	198.00
AEGIS DRAW 2000	168.00
ALTERNATE REALITY	25.00
ANALYTIC ART	38.00
ANALYZE 2.0	62.00
ANDROMEDA MISSION	25.00
ANIMAGIC	63.00
ANIMATE 3D	96.00
ANIMATOR APPRENTICE	187.00
ARCHITECTURAL DESIGN	22.00
AREXX	30.00
ARKANOID	25.00
ASSEMPRO	69.00
ATALK III	60.00
ATREDES BBS PRO.	90.00
ATREDES TERMINAL	30.00
AWARD MAKER	32.00
AWE. ARCADE VOL. 1	35.00
B.A.D.	30.00
BARD'S TALE II	37.00
BATTLE CHESS	30.00
BBS-PC	92.00
BENCHMARK MODULA 2	138.00
BENCHMARK LIBRARIES	69.00
BLITZ. ON THE ARDENNE	37.00
BREACH	28.00
BRIDGE 5.0	22.00
BUBBLE BOBBLE	26.00
BUBBLE GHOST	25.00
BUTCHER 2.0	23.00
CALIFORNIA GAMES	27.00
CALLIGRAPHER	74.00
CAPE 68K ASSEMBLER	59.00
CAPONE	35.00
CAPTAIN BLOOD	31.00
CARRIER COMMAND	28.00
CENTERFOLD SQUARES	20.00
CHESSMASTER 2000	31.00
CHRONOQUEST	24.00
CITY DESK	95.00
COMICSETTER	66.00
COMICSETTER DATA DISKS	22.00
CRITICS CHOICE	150.00
CYBER COMPLEX	21.00
CYGNUS ED PRO	60.00
DARK CASTLES	28.00
DATARETRIEVE	53.00
DECIMAL DUNGEON	32.00
DEFCON 5	28.00
DELUXE HELP DISKS	22.00
DELUXE MUSIC 2.0	69.00
DELUXE PAINT III	99.00
DELUXE PHOTO LAB	98.00
DELUXE PRINT II	57.00
DELUXE PRODUCTIONS	138.00
DELUXE VIDEO 1.2	86.00
DEMON'S WINTER	24.00
DESIGN 3D	60.00
DESTROYER	27.00
DEVPAK ASSEMBLER	60.00
DIGA	51.00
DIGI PAINT	41.00
DIRECTOR	44.00
DIRECTOR TOOLKIT	28.00
DISCOVERY DATA DISKS	14.00
DISCOVERY MATH	28.00
DISC. SPELL	28.00
DISC. TRIVIA	28.00
DISK MASTER	48.00
DISK MECHANIC	55.00
DOS TO DOS	32.00
DOUGS MATH AQUARIUM	51.00
DR. T'S SOFTWARE	CALL
DRAGON'S LAIR	39.00
DRUM STUDIO	30.00
DUNGEON MASTER	24.00
DYNAMIC DRUMS	51.00
DYNAMIC STUDIO	138.00
EARL WEAVER BASEBALL	35.00
EMERALD MINES	13.00
EMERALD MINES II	28.00
EMPIRE	35.00
EMPIRE STRIKES BACK	24.00
ENCHANTER	21.00
EUROPEAN SCENERY DISK	18.00
EXCELLENCE	174.00
EXPRESS PAINT 3.0	78.00
FA INTERCEPTOR	35.00
FACC II	24.00
FAERY TALE ADVENTURE	35.00
FAERY TALE HINT BOOK	10.00
FALCON	30.00

GVP™

A2000 HardCards

40 MEG 11ms $799

80 MEG 11ms $1199

100 MEG 11ms $1449

Item	Price
FAMILY TREE	30.00
FANTAVISION	38.00
FERRARI FORMULA I	35.00
FINE PRINT	30.00
FIRE POWER	16.00
FIRST LETTERS & WORDS	35.00
FIRST SHAPES	35.00
FLIGHT PATH 737	19.00
FLIGHT SIMULATOR II	36.00
FLIPSIDE	38.00
FLOW	65.00
FORMS IN FLIGHT II	72.00
FORTRESS UNDERGROUND	19.00
FRACTION ACTION	32.00
GALILEO 2.0	44.00
GETTISBURG	42.00
GIZMOS 2.0	44.00
GNOME RANGER	14.00
GOLD RUNNER	28.00
GOLD SPELL II	29.00
GOLDEN PATH	32.00
GOMF 3.0	24.00
GOMF 3.0 W/ BUTTON	51.00
GRABBIT	21.00
GRADE MANAGER	52.00
GRAPHIC STUDIO	38.00
GREAT STATES II	25.00
GRID START	19.00
GAUNTLET II	35.00
HACKER II	28.00
HARDBALL	28.00
HARRIER COMBAT SIM.	35.00
HARRIER MISSION	19.00
HEAD COACH	35.00
HEROES OF THE LANCE	26.00
HITCHHIKERS GUIDE	21.00
HOLE-IN-ONE MIN. GOLF	22.00
HOLLYWOOD POKER	22.00
HOLMESI	35.00
HONEYMOONERS	25.00
HOT LICKS	32.00
HUMAN DESIGN	22.00
HUNT FOR RED OCTOBER	35.00
HYBRIS	24.00
INDOOR SPORTS	35.00
INOVATOOLS #1	55.00
INSANITY FIGHT	28.00
INTELLITYPE	35.00
INTERCHANGE	32.00
INTERFONT	72.00
INTERNATIONAL SOCCER	24.00
INTROCAD	51.00
INVESTOR'S ADVANTAGE	66.00
JACK NICHOLAS GOLF	30.00
JET	36.00
JET SET UTILITIES	24.00
JEWELS OF DARKNESS	21.00
JINXTER	28.00
JOE BLADE	21.00
KAMPFGRUPPE	39.00
KARATE KID II	28.00
KARATE KING	19.00
KARTING GRAND PRIX	19.00
KINDERAMA	32.00
KINDWORDS	63.00
KING OF CHICAGO	35.00
KINGDOMS OF ENGLAND	30.00
LANCELOT	26.00
LAS VEGAS	19.00
LATTICE C 5.0	204.00
LAZERSCRIPT	29.00
LEADER BOARD DUAL PACK	21.00
LEATHER GODDESSES	26.00
LEXCHECK	27.00
LIGHTS, CAMERA, ACTION	51.00
LINKWORD LANGUAGES	19.00
LION'S FONTS	54.00
LRDS OF THE RISING SUN	31.00
LOTTERY MAGIC	18.00
LURKING HORROR	28.00
M	155.00
MAGELLAN	117.00
MANIC INVADERS	19.00
MARBLE MADNESS	35.00
MASTER TYPE	28.00
MATH MAGICIAN	28.00
MATH TALK	35.00
MATH TALK FRACTIONS	35.00
MATH WIZARD	32.00
MAVIS BEACON TYPING	35.00
MAXIPLAN 500	94.00
MAXIPLAN PLUS	126.00
MEAN 18	28.00
MENACE	28.00
METACOMCO PASCAL 2.0	81.00
MICROBOT DESIGN DISK	22.00
MICROFICHE FILER PLUS	108.00
MICROLAWYER	38.00
MIDI MAGIC	92.00
MIKE THE MAGIC DRAGON	16.00
MIMETICS UTILITIES 1	40.00
MINI PUTT	24.00
MISSION CON-BAT	29.00
MISSION ELEVATOR	32.00
MODELER 3D	88.00
MOEBIUS	41.00
MONEY MENTOR	61.00
MOVIE CLIPS	21.00
MOVIESETTER	63.00
MULTI-FORTH	56.00
MUSIC MOUSE	50.00
MUSIC STUDENT	35.00
MUSIC STUDIO	35.00
OBLITERATOR	28.00
OF THE FLESH	24.00
ONE ON ONE	14.00
ONLINE	45.00
OPERATION WOLF	24.00
OPTICKS	66.00
ORGANIZE	63.00
OUTLINE	32.00
OUTRUN	29.00
P.O.W.	28.00
PACBOY	19.00
PAGE STREAM	138.00
PAGEFLIPPER + F/X	94.00
PAGESETTER	94.00
PALADIN	28.00
PERFECT SCORE	55.00
PERSECUTORS	13.00
PHANTASIE III	28.00
PHASAR 3.0	56.00
PHOTON CELL ANIMATOR	104.00
PHOTON PAINT	66.00
PHOTON PAINT 2.0	90.00
PHO. PAINT SURFACE DISK	18.00
PIONEER PLAGUE	24.00
PIXMATE	44.00
PLATOON	28.00
PLUTOS	21.00
PORT OF CALL	32.00
POWER WINDOWS 2.5	62.00
PRINTMASTER +	32.00
PRISON	24.00
PRO ASM	66.00
PRO BOARD	355.00
PRO MIDI STUDIO	125.00
PRO NET	355.00
PRO SOUND DESIGNER	98.00
PRO VIDEO PLUS	179.00
PRO. DATARETRIEVE	195.00
PROFESSIONAL PAGE	240.00
PROJECT D	32.00
PROMISE	34.00
PROWRITE 2.0	78.00
Q-BALL	21.00
QUADRALIENS	18.00
QUARTERBACK	48.00
QUESTRON II	32.00
RAW COPY	36.00
ROAD RAIDERS	24.00
ROADWAR 2000	28.00
ROADWAR EUROPA	31.00
ROCKET RANGER	35.00
ROGER RABBIT	27.00
ROMANTIC ENCOUNTER	28.00
RUSH'N ATTACK	28.00
SARGON III	35.00
SCRIBBLE 2.0	63.00
SCULPT 3D	66.00
SCULPT 4D	419.00
SEX VIXENS	24.00
SHANGHAI	28.00
SILENT SERVICE	28.00
SILICON DREAMS	21.00
SINBAD & FALCON	35.00
SKY CHASE	27.00
SKYFOX	14.00
SLAYGON	28.00
SONIX	49.00
SOUND QUEST	CALL
SOURCE LEVEL DEBUGGER	56.00
SPACE QUEST	35.00
SPACE STATION OBLIVION	29.00
SPELLBOUND	25.00
SPELLER BEE	35.00
STARGLIDER II	28.00
STELLAR CONFLICT	28.00
STELLARYX	24.00
STREET CAT	27.00
STRIP POKER II	24.00
STUDIO MAGIC	63.00
SUB BATTLE	27.00
SUPERBACK	48.00
SUPERBASE PERSONAL 2	87.00
SUPERBASE PRO	207.00
SUPERPLAN	99.00
SUPERSTAR ICE HOCKEY	35.00
SWORD OF SODAN	30.00
SYNTHIA	69.00
TARGIS	24.00
TAX BREAK	48.00
TECNOCOP	29.00
TELEGAMES	22.00
TELEWARS	28.00
TERRORPODS	28.00
TEST DRIVE	33.00
TEXTPRO	53.00
THAI BOXING	14.00
THE ACCOUNTANT	190.00
THE THREE STOOGES	35.00
THE WORKS PLATINUM	178.00
THEXDER	26.00
THUNDERBLADE	30.00
TIME AND MAGIK	26.00
TITAN	27.00
TRACER	22.00
TURBO SILVER	115.00
TV SPORTS FOOTBALL	29.00
TXED PLUS	51.00
ULTIMA IV	41.00
UNINVITED	35.00
UNIV. MILITARY SIM.	30.00
V.I.P.	30.00
VIDEO EFFECTS 3D	130.00
VIDEO TITLER	88.00
VIDEO WIZARD	42.00
VIDEOSCAPE 3D	127.00
WARLOCK	21.00
WAYNE GRETZKY HOCKEY	30.00
WILLOW	24.00
WINTER GAMES	14.00
WITCHCRAFT	28.00
WORDPERFECT	199.00
WORLD CLASS LEADER BD	28.00
WSHELL	30.00
X-CAD	414.00
ZAK MCKRACKEN	28.00
ZOETROPE	84.00



CALIFORNIA ACCESS CA-880

NEW LOW PRICE

149.00

HARDWARE

Item	Price
8 UP 0K	169.00
8 UP W/2 MEG	535.00
8 UP W/4 MEG	CALL
8 UP W/6 MEG	CALL
8 UP W/8 MEG	CALL
ADAPTEC 4000	126.00
ADAPTEC 4070	170.00
AIR DRIVE EXT.	149.00
AIR DRIVE INT.	139.95
AMIGEN GENLOCK	156.00
APRODRAW 12 X 12	480.00
BUS EXPANDER	485.00
C LTD REPLMNT KYBD	98.00
C LTD HARD DRIVES	CALL
CALIFORNIA ACCESS	149.00
C LTD A500 512K 0K	30.00
C LTD CORONA SCSI	CALL
C LTD SCSI 500	156.00
C LTD SCSI 1000	180.00
C LTD SCSI 2000	119.00
CM 20 MEG A500/A1000	639.00
CM 20 MEG A2000	539.00
CM 40 MEG A500/A1000	799.00
CM 40 MEG A2000	749.00
CM 65 MEG A500/A1000	879.00
CM 65 MEG A2000	799.00
CM 85 MEG A500/A1000	966.00
CS-1 COPY STAND	58.00
CVIEW 1	35.00
CVIEW 2	35.00
DELUXE MIDI INTFCE	63.00
DIGI-DROID	62.00
DIGI-VIEW 3.0	139.00
DIGI-VIEW GOLD	139.00
ECE MIDI	50.00
EPYX 500 XJ JOYSTK	14.00
ERGOSTICK JOYSTK	18.00
EXP. TECH HARD DRIVE KIT	286.00
FLASH CARD A2000 SCSI	186.00
FLICKER FIXER	510.00
FLICKER MASTER	12.00
FRAMEGRABBER	529.00
FUTURE SOUND	136.00
GEN ONE GENLOCK	699.00
GO 64	36.00
GO 64 INTERFACE CABLE	15.00
GVP 20 MEG HARDCARD	575.00
GVP 30 MEG HARDCARD	698.00
GVP 45 MEG HARDCARD	816.00
GVP AUTOBOOT EPROM KIT	29.00
GVP FD2010 FLOPPY	135.00
GVP IMPACT A500	CALL
GVP A500 RAM MODULE	66.00
GVP SCSI/RAM A2000 0K 1M	294.00
GVP SCSI/RAM A2000 0K 2M	324.00
GVP SCSI/RAM A2000 2M	750.00
HARDFRAME 2000	257.00
HD-6A HARD DRIVE CASE	125.00
INBOARD 0K A1000	216.00
INBOARD 512K A1000	386.00
INBOARD 1 MEG A1000	556.00
INBOARD 1.5 MEG A1000	726.00
INBOARD 0K A500	239.00
INBOARD 1 MEG A500	546.00
INBOARD 2 MEG A500	853.00
KICKSTART ELIMINATOR	120.00
M501 512K A500 EXP. 0K	65.00
MEGABOARD 2000 1 MEG	399.00
MEGABOARD 2000 2 MEG	479.00
MIDI GOLD A500	58.00
MIDI INSIDER A2000	65.00
MIDI STAR	216.00
MODEM CABLE A1000	15.00
MODEM CABLE A500/A2000	15.00
MOUSE MASTER	27.00
MOUSE PADS	9.00
NEC PINWRITER 2200	432.00
PERFECT SOUND	66.00
PERFECT VISION	189.00
PRO GEN GENLOCK	384.00
PRORAM 8 MEG W/2 MEG	535.00
SCSI CABLES	25.00
SEAGATE ST157N 48 MEG	439.00
SEAGATE ST225N 20 MEG	345.00
SEAGATE ST251N 40 MEG	440.00
SEAGATE ST277N 65 MEG	510.00
SEAGATE ST138N 30 MEG	394.00
SEAGATE ST296N 85 MEG	635.00
STARDRIVE SCSI CONT.	102.00
SI COLOR SPLITTER	74.00
STARBOARD II 0K	260.00
STARBOARD II 512K	385.00
STARBOARD II 1 MEG	495.00
STARBOARD II 2 MEG	765.00
SUPER GEN GENLOCK	699.00
SUPRA 2400 MODEM	129.00
BRICK A500 POWER	102.00
TIMESAVER	55.00
TOOLBOX A1000 3 AMP	214.00
TOOLBOX A1000	144.00
TOOLBOX A500 1 AMP	152.00
TRUMPCARD CONT.	165.00
VI-2000RF	78.00
VI-500RF	78.00
WV-1410 W/LENS,CABLE	238.00
X-SPECS 3D	94.00

CALL for the Latest prices on the many *New Products* just arrived



Standard Air
Available on Request

Computer Mart
105 Lynn St.
Nacogdoches, TX 75961

SHIPPING INFO: Software rates are $2.10/item (Max8.00) UPS Ground or $4.00/item (Max 14.00) UPS 2nd Day Air. Call for Hardware shipping info. REFUND & RETURN POLICY: Defective merchandise under warranty will be repaired or replaced. Returned product must be in original packaging. We do not offer refunds for defective products or for products that do not perform satisfactorily. We make no guarantees for product performance. Money back guarantees must be handled directly with the manufacturer. All returns must have an RA #. Call 409-560-2826 for an RA. Returned products are subject to a 20% restocking fee. Prices subject to change without notice. Delivery subject to availability.







Circle 69 on Reader Service card.

HOSTAGE

By Peter Olafson

IN HOSTAGE, YOU must get the terrorist-occupied embassy under your guns, break inside, and rescue the hostages (stocky guys in blue suits) without loss of life—except to the terrorists. You can go absolutely berserk on the terrorists.

The first segment finds you directing three marksmen to sniper nests past a roving searchlight and enemy gunsights. The animation and ricochet sounds are quite nice. I especially liked the fluid way snipers dive over walls and through windows.

Once on the roof (a well-done animated segue here), you choose among nine positions, and rappel down the side of the building. This takes some delicate joystick manipulation. The button governs the push off the wall; the motion of the stick tightens or loosens the climber's grip on the rope. If he hits the window with enough pressure, it shatters and he's in. If terrorists are at the window, the climber is a stain on the pavement. Have your snipers check out the targeted windows in advance.

Inside the three-story embassy the fun really begins. The scenery is all distractingly realistic. Happily, the terrorists on the upper floors are foolhardy; they'll come racing towards you at the sound of gunfire. If you stay alert, you can easily clear most of a floor standing in place. Your machine-gun leaves respectable pockmarks on the walls and doors. As you head deeper into the building, however, your foes develop the nasty habits of dodging bullets and standing close to hostages.

Plan you attacks carefully. Teamwork is the key, but I've yet to get through a game without wasting at least one hostage. The situation only gets worse on the two advanced levels, which are reached by codes received upon completion of the previous level. While you cannot save a game, you can restart at the rappeling sequence.



The fate of the embassy rests on you.

The intuitive interface and realism make a couple of minor glitches stand out. For instance, special forces members going through broken windows must rebreak the windows each time. Self-repairing glass aside, I haven't received such a swift, agreeable kick from a computer game in a long time. *($44.95, Infogames, distributed in the US by Mindscape, 3444 Dundee Rd., Northbrook, IL 60062, 312/480-7667, 800/221-9884. Joystick required.)*

SHOGUN

By Dodson Yaple

CARRYING THE BANNER of Infocom's new illustrated-text-adventure format, Shogun casts you as the sixteenth-century pilot John Blackthorne, the first English sailor to reach Japan. Marooned in the middle of an emerging civil war, you must survive, try to repair your ship, and sail home. Fans of James Clavell's epic will enjoy participating in this computerized version of the novel, complete with bowing, politeness, and head-chopping.

The game unfolds as a series of disconnected scenes, each of which you complete in sequence by doing things that advance the plot. You cannot return to a scene after you complete it, and you cannot carry objects from one scene to the next. The game downplays puzzle-solving in favor of pace and action, resulting in a product that is less clever, contemplative, and amusing than older Infocom adventures, but is faster and more exciting.

New features replace the old. Most welcome is the on-line hint section. To resist the tendency to peek, you can turn the hints off. Among other improvements, Infocom's legendary parser is better than ever (though a little slower), you can save up to nine positions on the unprotected program disk, and the inevitable maze—now drawn on screen—is much more fun.

As for the graphics, most of which are done in the mannered style of Ukiyo-e, they are unlikely to overwhelm you. Similar products with sound and animation have rendered this approach to graphic adventuring largely obsolete. Moreover, the drawings unwisely insist on depict- ►



InterComputing, Inc.

2100 N. Hwy 360, Suite 2101
Grand Prairie, TX 75050-1015

In business since 1984; Amiga support since 1985
Member of Dallas Better Business Bureau

We are a service oriented business offering discount prices
FAX: 1-214-660-3695
Customer Service & Order Status: 1-214-988-3500

COMPLETE PRODUCT LISTING AVAILABLE
Call toll free: 1-800-622-9177

MEMORY EXPANSION

Amiga 500 & 1000

Item		Price
Starboard 0 K	A1000	239.95
Starboard 1 MB	A1000	499.95
Starboard 2 MB	A1000	795.00
Starboard 512 K	A1000	379.95
Starboard Multifunction Card		74.95
Starboard SCSI Module		99.95
Starboard Upper Deck		44.95
M501 0 K		59.95
M501 512 K with Clock		159.95
Mini Meg A1000 with 0.5 MB		359.95
Mini Meg A1000 with 1.0 MB		499.95
Mini Meg A1000 with 2.0 MB		789.95

Amiga 2000 & 2500

Item		Price
8-UP Memorycard DIP	0K	159.95
8-UP Memorycard DIP	2MB	595.00
8-UP Memorycard DIP	4MB	995.00
8-UP Memorycard DIP	6MB	1335.00
8-UP Memorycard DIP	8MB	1795.00

VIDEO SOFTWARE

Item	Price
Artistic Expressions Vol. I & II each	39.95
Broadcast Titler	199.95
Comic Setter	66.95
Deluxe Paint 3.0	109.95
Deluxe Productions	144.95
Director	44.95
Director Toolkit	27.95
Fantavision	39.95
Innvision	169.95
Intro CAD 2.0	49.95
Movie Setter	69.95
Pageflipper Plus FX	99.95
Pagerender 3-D	109.95
Pagestream	139.95
Pagestream Fonts #1-5 each	29.95
Photon Paint 2.0	99.95
Professional Page	239.95
Sculpt 3D	69.95
Sculpt 4D	399.95
TV Show NTSC/PAL	62.95
TV-Text	62.95
Turbo Print	32.95
Turbo Silver	129.95
Zoetrope	99.95
Inovatools I	

MUSIC & AUDIO

Item	Price
Audiomaster II	69.95
CMI Midi Interface	69.95
Dr. T's 4-OP Deluxe	99.95
Dr. T's Copyist	199.95
Dr. T's KCS 1.6	166.95
Dr. T's Kawai K1 Lib.	99.95
Dr. T's Midi Recording Studio	44.95
ECE Midi-A500/2000	44.95
ECE Midi-A1000	44.95
"M"	154.95
Midi Cable 5' black	8.95
Midi Cable 8' color	11.95
Midi Gold external	69.95
Midi Gold internal	69.95
Music Mouse	49.95
Music X	**199.95**
Perfect Sound	64.95
Soundscape Audiodigitizer	79.95
Soundscape Pro Midi Studio	124.95
Soundscape Utilities I	39.95
Studio Magic	69.95
Synthia	
Texture	

BUSINESS

Item	Price
Analyze 2.0	62.95
BEST Management System 2.0	299.95
Critic's Choice	159.95
Cygnus Ed Prof.	69.95
Excellence	179.95
Financial Plus	199.95
Kindwords	66.95
Maxi Plan 500	99.95
Maxi Plan Plus	129.95
Microfiche Filer	69.95
Microfiche Filer Plus	112.95
Money Mentor 2.0	59.95
Pen Pal	109.95
Phasar 3.0	66.95
Prowrite 2.0	72.95
Super Base Personal II	99.95
Super Base Prof. 3.0	199.95
Superplan	109.95
TexEd Plus	54.95
The Works-Platinum	169.95
Wordperfect	

HARD DRIVES

Item	Price
GVP Impact Drives: 0MB-80meg Quantum	1199.95
0MB-No Drive	299.95
2MB-80meg Quantum	1699.95
2MB-No Drive	699.95
Hardframe DMA SCSI Controller	239.95
Phoenix Drives: 22Meg A-1000	599.95
22Meg A-2000	549.95
32Meg A-1000	699.95
32Meg A-2000	749.95
48Meg A-1000	799.95
48Meg A-2000	749.95
80Meg A-1000	1299.95
80Meg A-2000	1249.95
Quantum Pro-80Meg	875.95
Miniscribe	549.95
Supra 30MB HDisk for A500-A1000	699.95

FDATA-10 DRIVE

Our best selling '1010' compatible drive for all Amigas. **139.95**

FDATA-10 DRIVE

Two 3.5" drives in one small case. Clean design, quiet, and at a great price. **249.95**

FAST TRAK

20 MB HARD DRIVES

Amiga 500	599.95
Amiga 1000	639.95

A-MAX 134.95

The 'MAC' Emulator for the Amiga; works with all Amiga models

ROM-Set 139.95

For use with A-MAX

3.5" Drive 199.95

MAC-compatible; for use with A-MAX

VIDEO HARDWARE

Item	Price
A-Pro Draw 9x6	399.95
A-Pro Draw 12x12	499.95
Amiga Live A 1000	219.95
Amiga Live A 2000	329.95
Amiga Live A 500	299.95
Color Splitter	89.95
DigiDroid	64.95
Digi View 3.0	139.95
Digi View Gold	139.95
Easyl 500	319.95
Easyl 1000	339.95
Easyl 2000	349.95
Flicker Fixer	499.95
Panasonic 1410 Camera Kit	239.95
Perfect Vision	175.95
Polaroid Palette	2199.95
Super Gen	699.95
X-Specs 3D	99.95

PROGRAMMING

Item	Price
A/C Basic Compiler	129.95
A/C Fortran-AB Soft	179.95
Aztec C Developer	219.95
Aztec C Professional	159.95
GFA Basic 3.0	99.95
HiSoft Basic Compiler	**109.95**
Lattice C 5.0	219.95
Lattice C ++	399.95
Lint	69.95
Power Windows 2.5	56.95

MISCELLANEOUS

Item	Price
Arexx	32.95
BAD	32.95
CLI Mate	27.95
DOS-2-DOS	42.95
Disk Mechanic	56.95
EZ-Backup	32.95
Facc II	22.95
Project D	32.95
Quarterback	44.95

DISK DRIVES

Item	Price
A2010 Internal 3.5"	149.95
AIR Drive External	169.95
AIR Drive Internal	134.95
California Access Drive CA-880	169.95
F-DATA 10	139.95
F-DATA 20	249.95
Drive Extension Cable	19.95

MODEMS

Item	Price
Supra 2400 baud ext.	149.95
Supra 2400 baud int.	149.95

AMIGA 500 Starter Pack

A500 with 1Meg
2 Drives
Monochrome Monitor

949.95

Prepay with check or money order and get free UPS-ground shipping and a FREE GAME!



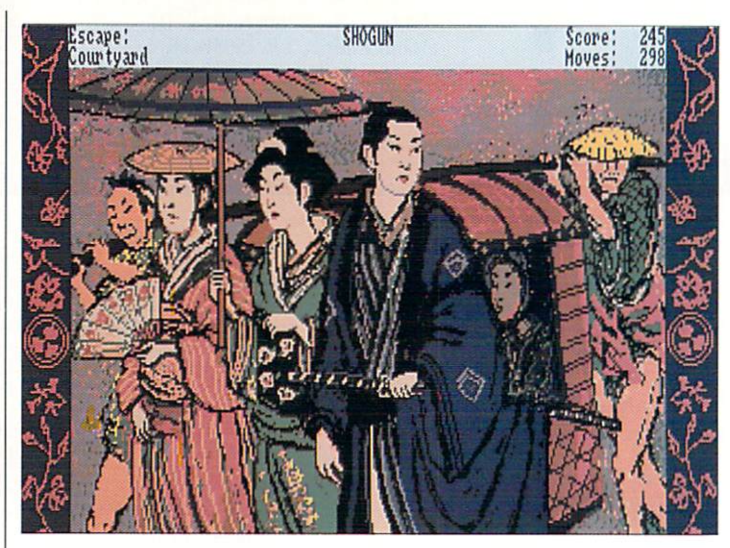
TRADE UP!

We will trade in your Amiga 500 or 1000 towards a new Amiga 2000 or 2500. Call for details!

Government, corporate & institutional

Purchase Orders are welcome!

As always we have the most 'customer friendly' terms: S/H $3.95 in cont. USA; $30.00 min. order ; MASTERCARD & VISA with NO credit card fee; in Texas add 7% Sales Tax. $12.00 shipping to APO addresses. RMA# required on all returns. 18% restocking charge. All prices subject to change without notice.



Mariko escapes. Will you?

ing the story's main characters; Blackthorne, for example, looks like David Letterman's sidekick Chris Elliot. It's best not to know these things.

Fortunately, nothing interferes with the quality of the story, which is outstanding as always. The text, like the format, differs in tone from previous Infocom adventures, as evidenced in Shogun's attitude toward sex and violence. Infocom games used to wait for you to try something unmentionable, then skewered you with a smart remark. In Shogun you must seduce the heroine or lose points. Not bad work if you can get it. *($49.95, Infocom, 125 CambridgePark Dr., Cambridge, MA 02140, 617/492-6000. No special requirements.)*

LORDS OF THE RISING SUN

By Dodson Yaple

A DIFFICULT WAR game set in twelfth-century Japan, Lords of the Rising Sun casts you as one of two brothers seeking to avenge their father. You must devise a campaign to capture all the country's castles, thus becoming Shogun. Your ascendancy is vigorously disputed by opposing clans, and if you cannot prevail, you might have to commit seppuku. Enlivening this contest of strategy and tactics are mighty battles and sieges, a ninja raid or two, and the heroic rescue of another overendowed Cinemaware princess.

Most of the action takes place on a scrolling map of Japan that features changing weather, passing seasons, and a soundtrack. The screen's uncluttered elegance is a big plus once you've gotten your bearings, but its reliance on tiny symbols contributes to a hard-to-learn user interface. Castles fall, generals clash, and battles rage, while you flip through the confusing manuals trying to locate the castles, size up the generals, and join the battles. There is no intuitive entry into the scenario, and early play is frustrating.

Too bad, because once you figure out what's going on, Lords of the Rising Sun is

deep and addictive, with enough substance to keep you interested over the long term. Its demanding arcade sequences are strongly involv-


Fancy sword work will keep you alive.

ing; if they put you above the action rather than in the middle of it, this reflects the largely strategic concerns of the scenario. The game values judgment and leadership above battle skills. To win, you'll need to plan and organize more often than fight.

The program is generally well-behaved. When you boot, it considerately checks your computer's available memory and locates as much of itself as possible in RAM. Execute the included script file to install the game on your hard drive. Less considerate are the uncopyable master disk and the peculiar save function, which preserves only one position at a time, requires a reboot to restore it, and erases it if your character gets killed.

While Lords of the Rising Sun lacks the roller-coaster excitement, showy graphics, and intuitive controls needed to rank with the top sellers, it offers patient players a rewarding experience. *($49.95, Cinemaware Corp., 4165 Thousand Oaks Blvd., Westlake Village, CA 91362, 805/495-6515. No special requirements.)*

Manhunter: New York

By Peter Olafson

THE YEAR IS 2004 in the world of Manhunter: New York. The Orbs (big eyeballs with Shriner tassels) have taken over, and you are employed by them as a human tracker in Manhattan and Brooklyn. Your principal tool, in addition to whatever you find along the way, is the Manhunter Assignment Device (MAD), which doubles as a tracker and a computer link.

The game is almost entirely mouse controlled; the pokey cursor becomes an arrow or flying saucer to set direction, a hand to pick things up or push buttons, and a magnifying glass to examine scenery more closely. Getting around ►

has never been easier.

You can also easily die in splendidly grisly ways (be prepared for some unappetizing scenes) but will have trouble staying dead long. The grinning game designers turn up in Manhunter robes to suggest what you did wrong and send you back to the scene of your most recent mistake—a nice nod towards built-in hints.

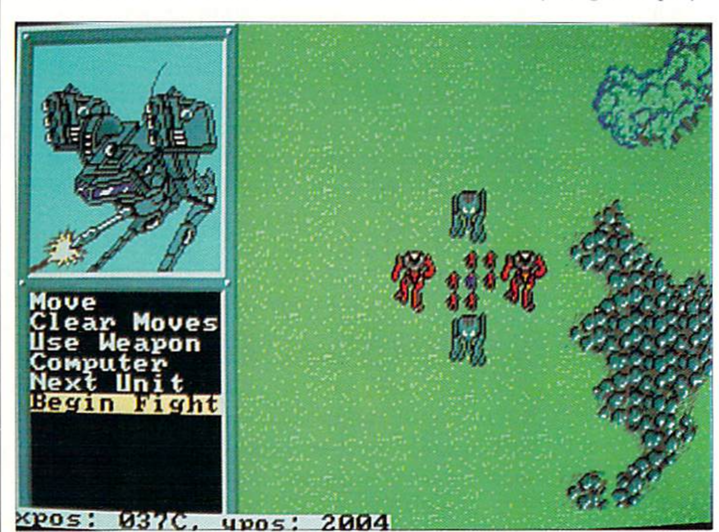
That's about as friendly as the game gets. If you are not an arcade fan, skip Manhunter. This program contains maze games, ducking and jumping games, climbing and dodging games, and throwing games, all a little rough-edged. The hard ones will drive you to distraction. The easy ones offer the game's only red herring. The game is extremely, and perhaps prohibitively, difficult to complete.

The game environment is cold, more as a result of the design than atmosphere. The graphics tend to be static; the things you can examine more closely are things you need to examine more closely. It's a clean approach, but it suppresses the illusion of a deeper, manipulable world. *($49.95, Sierra On-Line, PO Box 485, Coarsegold, CA 93614, 209/683-4468. No special requirements.)*

BattleTech: The Crescent Hawk's Inception

By Denny Atkin

COMBINING role-playing elements, combat strategy, classic Infocom puzzles, and Japanese cartoon graphics, BattleTech: The Crescent Hawk's Inception is a graphic adventure that you'll want to play in one sitting.



Tanks are toys compared to BattleMechs.

You start the game as Jason Youngblood, a rookie cadet learning to pilot a BattleMech: a lumbering, 50-ton robot that's armed to the teeth. Between lessons, you get to play the stock market and try to make a few bucks for outside classes. Drop by the weapons shop and check out the new selection of submachine guns and missile launchers.

After the training school is destroyed by the rival faction from House Kurita, you must put together a group of believers in your cause and go on a quest to discover the fate of your father.

Fans of the BattleTech role-playing game won't be disappointed in this game. Infocom worked with FASA, the original game's creators, in duplicating the first version's combat system. Add the strategy of Mech combat to the puzzle solving needed during your quest and you have a game that will please just about any adventure fan.

The interface is also well done. Using the mouse or keypad to move and select options is less distracting than typing commands.

My complaints are few. While there are several buildings on the training grounds, you cannot enter many. You spend a lot of time walking from one side of the facility to the other. Perhaps the biggest problem with BattleTech is that it ends too quickly. Like an engrossing movie, BattleTech will leave you asking, "Is it over already?" *($49.95, Infocom, 125 CambridgePark Dr., Cambridge, MA 02140, 617/492-6000. No special requirements.)*

Gold of the Realm

By Denny Atkin

BORROWING ELEMENTS from arcade and adventure games, Gold of the Realm includes the challenge of neither. The game is more an exercise in maze exploration.

Maneuvering a joystick-controlled character through over 300 screens of countryside and corridors, you must collect objects and solve puzzles that will eventually lead you to the gold hidden deep within the heart of the castle. Incredibly long periods are spent just wandering through passageways looking for the correct key to pass further into the maze. To get past an obstacle, you must simply be carrying the correct object. There are no real puzzles to solve here.

To avoid the various creatures you'll encounter, you must be carrying the proper object to repel them. If you don't have it: run away.

The sole unique feature of Gold of the Realm is its background music. The music plays through an attached MIDI synthesizer. While this is a neat touch for those with MIDI interfaces, it leaves most Amiga users listening to nothing but the sound of footsteps and creaking doors.

Somewhere within the twisted corridors and dark passages of a huge castle lies the gold of the realm. If you have the patience of Job, you may actually play the game long enough to find it. *($39.95, Magnetic Images Company, PO Box 17422, Phoenix, AZ 85011, 602/265-7849. Joystick required.)* ■

FREE THE PING!...

FREE SHIPPING ON SOFTWARE ORDERS OVER $100!

Via UPS 2nd Day Air. US Only (Alaska & Hawaii excluded). COD add $3.00

PRODUCTIVITY

- The Accountant $189
- Analyze! 2.0 ...... $69
- Data Retrieve $59
- Data Retrieve Pro $199
- **Desktop Budget $49**
- Excellence! $175
- **Formation Form Builder $49**
- Kind Words $65
- Maxiplan Plus $129
- Microfiche Filer Plus $129
- **MFF Business DBases $39**
- **MFF Home DBases $29**
- Money Mentor $65
- Phasar $65
- Pro Write 2.0 ...... $79
- Superbase Personal 2 ...... $89
- Superbase Professional $199
- Super Plan $99
- Transcript $49
- Word Perfect $195
- Word Perfect Library $85
- Works Platinum $195

TELECOMMUNICATIONS

- A-Talk III $69
- Atredes BBS $69
- Atredes w/SkyPaint $99
- BBS-PC! $99
- Dr. Term Pro $69
- Online! v2.0 ...... $45

THE LIGHTSPEED ADVANTAGE:

- Three years Amiga market experience.
- **Authorized Dealer!** All Systems in stock!
- Our team is comprised entirely of Amiga owners and enthusiasts.
- Excellent Technical Support from experienced Amiga users.
- Up-front policies.
- Competitive prices.
- **Toll-Free Customer Service!**

Amiga is a trademark of Commodore-Amiga.

ENTERTAINMENT

- Action Fighter $32
- **Airball $27**
- **Aunt Arctic Adventure $27**
- Baal $21
- Balance of Power 1990 ...... $32
- **Ballistyx $23**
- Battle Chess $32
- **BattleHawks 1942 ...... $32**
- **BattleTech: Crescent Hawk $32**
- Blitzkrieg Ardennes $39
- **Blood Money $27**
- Breach $27
- **Bubble Bobble $23**
- California Games $32
- Captain Blood $32
- Carrier Command $29
- Creature $27
- **Data Storm $27**
- **Death Bringer $27**
- Devonaire $32
- Dragon's Lair $42
- Dungeon Master $27
- Elite $29
- Faery Tale Adventure $32
- Falcon $32
- **Federation $32**
- Flight Simulator II $32
- FS II Scenery (ea) $18
- Harpoon $27
- Hole in One Mini Golf $23
- Hostage $29
- Hybris $27
- Impossible Mission II $15
- **Journey $32**
- King of Chicago $32
- Kybos $23
- **Lords of Rising Sun $32**
- **Magic Johnson $32**
- Mean 18 ...... $29
- Neuromancer $29
- **Operation Wolf $23**
- Outrun $32
- P.O.W. $27
- Paladin $27
- Pioneer Plague $27
- Prime Time $27
- Qix $27
- Rastan $27
- Realm of the Warlock $23
- **Renegade $23**
- Rocket Ranger $32
- Roger Rabbit $29
- Shanghai $15
- **Shogun! $32**
- **SIM City $32**
- SkyChase $27
- Sky Shark $27
- **Speed Ball $27**
- Starglider II $29
- Street Cat $21
- Street Fighter $27
- Sub Battle $15
- Superstar Ice Hockey $32
- Sword of Sodan $32
- Techno Cop $32
- Terrorpods $27
- **Test Drive II: The Duel $29**
- **Test Drive II Cars $15**
- **Test Drive II Scenery $15**
- Three Stooges $32
- **Thunder Blade $32**
- **Total Eclipse $27**
- TV Sports Football $32
- Twilight Zone $27
- Universal Military Sim. $32
- UMS Scenarios 1 or 2 ...... $15
- **Vortex $27**
- War in Middle Earth $32
- Wayne Gretzky Hockey $32
- Zak McKracken $29
- Zoom! $21
- **Zork Zero $42**

ELECTRONIC ARTS

- Aaargh! $2
- AD&D Heroes $25
- Annals of Rome $23
- Artura $25
- Awesome Arcade Pak $32
- Bard's Tale $32
- Bard's Tale II $39
- Bard's Tale Clue Book $11
- Bard's II Clue Book $11
- Chessmaster 2100 ...... $32
- Deluxe Music $65
- Deluxe Paint II $85
- **Deluxe Paint III $95**
- Deluxe PhotoLab $95
- **Demon's Winter $25**
- Double Dragon $25
- **Dragon Force $32**
- Earl Weaver Baseball $32
- **EWB Commissioner Disk $15**
- EWB MLBPA 1988 Stats $15
- Empire $32
- Ferrari Formula One $32
- Firezone $23
- Gettysburg $39
- Global Commander $25
- Interceptor $32
- Kampfgruppe $39
- Life and Death $32
- **Marble Madness $15**
- Mavis Beacon Typing $32
- Pub Games $25
- Questron II $32
- Reach for the Stars $25
- Rebel Charge $39
- Reel Fish'n ...... $
- Roadwar 2000 ...... $2
- Rockford $2
- Sorceror Lord $23
- Time & Magik $25
- **World Tour Golf $15**
- Zany Golf $25

POLICIES:

Shipping Info: Software is $2.50/item ($5 max) via UPS Ground. For UPS 2nd Day Air add $1.50 to the Ground rate. COD add $3.00. Next Day Service available. Other carriers, Hardware, and Foreign rates may be extra.

Other Policies: No charge to Credit Card until shipping date, and no surcharges. Exchanges only for defective items, and for same item only. We cannot guarantee product satisfaction.

How to FREE THE PING! (Part One)

In every order we ship you'll find a Custom Button "trapped" inside. If it has a picture of the "Ping" on it, you'll be entitled to 10% Off your next order, just for setting him free! (Maximum discount $25.00)

So go ahead, Make the Jump ... and Free The Ping!

DESKTOP PUBLISHING

- Award Maker Plus $32
- City Desk 2.0 ...... $129
- Comic Setter $69
- Fine Print $32
- JetSet Laser Utility $29
- PageStream $129
- Professional Draw $129
- **Professional Page $225**
- Pro Fonts 1 & 2 (ea) $25
- Pro Script $32

UTILITIES

- **B.A.D. $32**
- Cygnus Ed Professional $69
- Disk Master $45
- GOMF! $25
- Project D $32
- Quarterback $45
- Raw Copy $39
- TxEd Plus $55
- Workbench Extras $27
- WShell $32

LIGHTSPEED

ORDERS & CUSTOMER SERVICE

1-800-525-4428

AT LIGHTSPEED

MUSIC & MIDI

Item	Price
AudioMaster II	$69
Dr.T's Copyist Pro	$165
Dr.T's KCS V1.6a	$165
Dr.T's Level II	$219
Dr.T's Midi Studio	$45
Dr.T's Editors (ea)	$99
Dynamic Studio	$129
M for Amiga	$159
Midi Magic	$99
Pro Midi Studio	$129
Pro Sound Designer	$119
Sonix	$49
Sound Oasis	**$75**
Texture	$99

GRAPHICS & ANIMATION

Item	Price
ANIMagic	**$65**
Broadcast Titler	**$189**
Butcher 2.0	$25
Digi Paint	$49
Director	$49
Draw 2000	$179
Fantavision	$45
Grabbit!	$23
Homebuilder's CAD	$139
InterFont	$79
Invision	$139
Modeler 3D	$65
MovieSetter	$69
Photon Paint II	**$99**
Pro Video Plus GOLD	**$189**
Pro Video Fonts (ea)	$99
Sculpt-Animate 4D	$439
Turbo Silver 3D	$124
Turbo Silver Terrain	$23
Video Effects 3D	$129
Videoscape 3D	$124
X-CAD Designer	$385
Zoetrope	$89

THIS MONTH'S SPECIALS!

Complete **A-MAX** Emulation Package!

Includes: A-MAX, 128k ROM's, and Fully Compatible 800k Drive!

Total Price: **$449 !**

HARD DRIVE PRICE REDUCTIONS

Choose your Controller!
Hard Frame, or Supra.

Add your choice of Drive:	**Total Price!**
Seagate 48 Mb 3.5"	$649
Seagate 65 Mb 5.25"	$699
Seagate 80 Mb 5.25"	$849
Quantum 40 Mb 3.5"	$799
Quantum 80 Mb 3.5"	$1149
Quantum 106 Mb 3.5"	$1249

Overdrive Special!
48 Mb Seagate Hard Card .... $599!

PROGRAMMING

Item	Price
AC Basic	$139
ARexx	$32
Benchmark Modula 2	$129
C Library	$65
IFF Library	$65
Simplified Lib.	$65
C.A.P.E. 68k Assem.	$65
DSM (Disassembler)	$49
DevPac Amiga (HiSoft)	$69
Extend 1.2	$29
G.F.A. Basic	$89
HiSoft Basic	**$99**
Innovatools I	$59
Innovatools II	**$59**
Lattice C 5.0	$199
Lattice C ++	**$359**
Magellan	$125
Manx Aztec C Devel	$189
Manx Aztec C Pro	$135
Manx Source Debugger	$55
Metacomco Assembler	$89
Metacomco Pascal 2.0	$89
PowerWindows 2.5	$69
True Basic	$69

ORDERS & CUSTOMER SERVICE

1-800-525-4428

Hours: Monday-Friday 9-6 (PST)

INTERNATIONAL TOLL-FREE ORDERING!

AUSTRALIA:
Overseas Freephone Toll-Free: **0014-800-12-5632**

CANADA:
Toll-Free Service Call: **1-800-843-2555**

■ **Australia & Canada:** Please use Toll-Free lines for Orders Only! (Minimum Order $100 US)

For info, or Orders under $100 US, call **503-777-1008.**

Thank You!

HARDWARE & ACCESSORIES

MISC. HARDWARE

Item	Price
Chinon 3.5" Internal	$115
Mast Uni-Drive	$139
Master 3A-1 Drive	$139
Supra 2400 Baud Modem	**$129**
Supra 2400 Internal Modem	**$135**

GRAPHICS HARDWARE

Item	Price
AProDraw 12x12 Tablet	$499
Color Splitter	$79
Digi-View 3.0	$145
Digi-View Gold	$145
Easyl (All Models)	$369
FrameGrabber	$565
Live 2000	$349
Panasonic Camera w/Lens	$249
Perfect Vision	$179
Polaroid Palette	$2295

MUSIC HARDWARE

Item	Price
A.M.A.S. Midi Sampler	**$129**
CMI Midi External	$65
Midi Gold 500	$59
Midi Gold 2000	$65
Perfect Sound	$69
Pro Sound Designer	$119
Spirit Midi Star	$229

HARD DRIVES

Item	Price
Quantum 42Mb 3.5"	$599
Quantum 80Mb 3.5"	$969
Quantum 105Mb 3.5"	$1069
Seagate 48Mb 3.5"	$449
Seagate 65Mb 5.25"	$519
Seagate 80Mb 5.25"	$649
Supra 30Mb (500/1000)	**$725**
Supra 60Mb (500/1000)	**$949**
Supra 80Mb (500/1000)	**$1299**

CONTROLLERS

Item	Price
GVP SCSI 2000	$249
GVP Impact 1Mb/0K	$299
GVP Impact 2Mb/0K	$329
HardFrame 2000	$249
Overdrive 2000	**$175**
Supra 500/1000	$209
Supra 2000	$219

GREAT VALLEY PRODUCTS

A2000 Hard Cards:

Item	Price
GVP 42Mb Quantum	$799
GVP 80Mb Quantum	$1195
GVP 20Mb Seagate	$575
GVP 30Mb Seagate	$699
GVP 48Mb Seagate	$799

GENLOCKS

Item	Price
Amigen	$149
Gen One	**$725**
Magni 4004	**$1495**
ProGen	$379
SuperGen	$649

SYSTEM/RAM EXPANSION

Item	Price
AMAX Mac Emulator	**$125**
8-Up! 8Mb/0K DRAM	$149
8-Up! PopSIMMs (4)	$75
GVP 500 0k RAM Module	$69
GVP Module w/2Mb RAM	$579
KwikStart 1.3	$155
MegaBoard 2Mb 2000	$579
MiniMegs 512k	$335
MiniMegs 1Mb	$499
Phoenix Card Cage	**$159**
Phoenix Cage w/Power	**$225**
Starboard II w/512K	$459
Spirit Inboard 1000	$229
Spirit Inboard 500	$229

Call for hardware shipping rates.

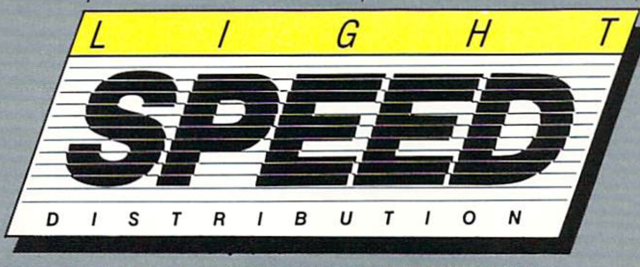
ACCESSORIES

Item	Price
Boing! Optical Mouse	**$99**
Copy Stand	$55
Epyx 500XJ Joystick	$16
GOMF! Button	$49
Mouse Master	$29
PowerPlayer Joystick	$24
Trackball Mouse	$45
X-Specs 3D Glasses	$99

BOOKS

Item	Price
AmigaBASIC In & Out	$19
AmigaDOS In & Out	$16
AmigaDOS Manual	$19
C for Beginners	$16
C for Advanced	$19
Sybex Handbook Vol 1	$19
Sybex Handbook Vol 2	$19
Programmer's Guide (Peck)	**$19**

Notice: We aid Law Enforcement agencies in the prosecution of Credit Card fraud!







6335 SE 82nd, Portland, OR 97266, (503) 777-1008, FAX: (503) 777-1252

A Division of Doxsis Systems, Inc.

Circle 122 on Reader Service card.

from p. 16
God in another—to get it to compile and run. I don't know whether the support is missing from the compiler and libraries or is undocumented.

THE CHALLENGE

The accompanying chart compares M2Sprint with Benchmark: Modula-2 (Avant Garde Software), the package that has come to represent the standard in Modula-2. You will see the compiling, linking, and running times listed for both the composite and FFT benchmark programs. I had to change the composite only slightly (mainly the routine that gets timestamps to time the benchmarks), and changed the FFT a little more (this probably slowed it down a bit) because of the LONGREAL problem. I clocked compilation and link times running from the CLI (running from the editor is faster but requires more RAM).

Although it has a few holes, M2Sprint is a good compiler. It makes the edit/compile/link process easy; debugging was the only painful part. I'll keep using Benchmark for now because I am more familiar with it, and because it is a bit more solid. Had I not started with Benchmark, though, I would be tempted by M2Sprint. The ARP and ARexx interfaces are a plus, and late-breaking news of version 1.1 with compiler and libraries improvement promises stiffer competition. Look out, Benchmark. . .the new kid is winding up.

M2Sprint
M2S Inc.
PO Box 550279
Dallas, TX 75355
214/340-5256
$385
No special requirements.

DESIGN 3D
SCULPT-ANIMATE 4D JR.

Experience the third dimension on a budget.

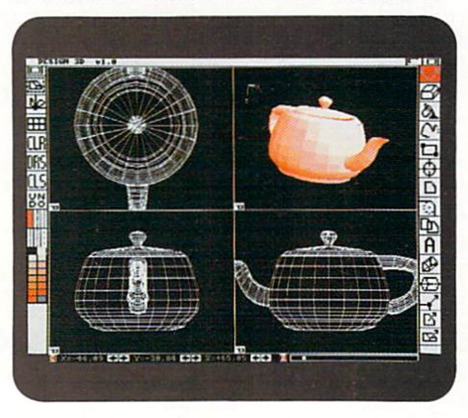
By Wayland Strickland

3-D OBJECT DESIGN and animation has traditionally been a fairly expensive hobby. The latest 3-D modeling programs cater to those who are intrigued by the possibilities this medium affords, but hesitate to take the plunge with a $200 to $500 package. With two recent releases, Design 3D (Gold Disk) and Sculpt-Animate 4D Jr. (Byte by Byte), you can test the waters of the next dimension while keeping your wallet afloat.

Design 3D

Design 3D's interface consists of four windows, each of which you can enlarge to full-screen size for detailed work. Three windows display top, left, and front views of your object in wireframe. The fourth, the Perspective window, allows you to see the object in a multitude of forms, which you can control via gadgets.

Design 3D tracks your mouse in real time, and at the bottom of the screen, X, Y, and Z coordinates indicate the pointer's current location. Next to the coordinates are arrow gadgets for moving the objects in the windows, and a slider control for toggling between Perspective and Zoom modes.



You can enlarge any of the four windows for a closer look.

The gadgets along either side of the screen represent a wide assortment of object-creation and -manipulation tools. On the left are a 16-color customizable palette (which can be graded for more efficient shading) and six line styles (one solid and five broken) that you can draw with. There are gadgets for creating grids, consolidating two nearby points into one, and more. An Undo feature lets you remove the last polygon entered.

The right side of the display contains the more powerful tools. The Point Select gadget gives you control over any single point in a polygon, Polygon Select affords control over whole polygons, and Object Select lets you manipulate complete objects. Using the Rotate option, you can turn an object on any of the three axes: The left mouse button rotates the object, while the right button summons a wireframe display (which the program can draw more quickly). The Solid Model gadget creates a solid representation of the object, complete with 3-D lighting, in the Perspective window. Various polygon tools let you form arcs, rectangles, ellipses, and free-form shapes. There are gadgets for cloning polygons, connecting two shapes to simulate extrusion, placing the edge of a 2-D polygon on a y-axis and sweeping it around 360 degrees to form a contoured 3-D surface, and more.

A FINE TUNER

Design 3D's Parameters screen, accessible from the Preferences pull-down menu, lets you adjust default values (the default of 16 sections for a Spin operation can be increased to give a smoother appearance, for instance) and determine program settings (such as grid spacing). For a system of measurement, you can choose millimeters, centimeters, meters, kilometers, inches, or feet. Here you can set the viewing angle for the Perspective window, as well as the number of light sources and their locations. You can also determine how many points (up to 90) the program will use to make a circle. The Scale function lets you proportion imported objects to those created in Design 3D.

The Options menu gives you further work-environment choices. The Perspective window's compass (which is helpful for rotation) can be toggled on or off via the Axis selection, while choosing Cross calls up screen-wide cross hairs in each work window (this is useful for lining up points without a grid). Dimensions forces Design 3D to use the last point entered as a reference (in place of the origin, for instance) and counts the relative coordinates from that point to the cross hairs'

current location. Full Screen removes all gadgets and such from the display—a useful option for animation and printing.

Design 3D generates three-dimensional text objects from characters typed into the text requester. The program offers just one font, but you can modify it with the built-in font editor. You can also specify each character's height, width, and depth, so you can space them proportionally with ease.

All objects can be rendered in either solid, wireframe, or solid with wireframe overlay. Design 3D's Fast option speeds the rendering process, although it sometimes produces inaccurate results due to polygon overlapping.

Design 3D's standard screen display is 640×200; the alternate is 640×400. Surprisingly, the speed of operation does not slow noticeably in high resolution.

You can save your Design 3D objects in three formats: the program's proprietary format, that of VideoScape 3-D and Draw 2000 (Aegis), or the Professional Draw and Professional Page (Gold Disk) format. For hardcopy output, Design 3D gives you access to HPGL-compatible plotters in addition to all Workbench-supported printers. Before the program prints your creation, it will ask you to specify the size of your intended output on paper in terms of an aspect ratio.

Notions in Motion

Design 3D's limited animation function permits movement of the camera only. Several sample motion scripts are included and can be used as a guide for creating new ones. You can render animations in either solid or wireframe mode and play them back either in real time as Design 3D creates the frames, or record them in Anim format. An Anim playback program is included on the Design 3D disk.

While pictures, diagrams, and a helpful tutorial are included in the manual, hard-drive installation instructions are not. According to the program's Read_Me file, you must copy the complete program and tools disks to the hard disk. All my attempts to copy Design 3D's C directory into the system's C directory, however, were fruitless. A more minor concern is that many of the program's C directory files duplicate system directory files, which wastes valuable hard-disk space. Finally, using Design 3D from a hard disk requires that you add two commands to the system's startup-sequence to correct software directory calls. Design 3D's copy-protection scheme calls for you to enter a word from the manual every time you boot.

While I do not care for the icons Design 3D uses to represent its functions, I do like the program overall. It performs well, and the text-entry function is a bonus.

Sculpt-Animate 4D Jr.

Sculpt-Animate 4D Jr. is a slimmed-down version of Byte by Byte's granddaddy 3-D design and animation package Sculpt-Animate 4D. While the professional 4D sells for nearly $500, Jr. retails for just $150—$100 less than the original Sculpt-Animate 3D combination. (For a review of Sculpt-Animate 4D, see p. 16 in the April '89 issue of *AmigaWorld*; for information on Sculpt-Animate 3D, see p. 39 in the May '88 issue.) Jr. makes affordable many of the basics that Sculpt-Animate enthusiasts have come to expect, leaves out some of the more advanced features like ray-tracing and motion blur, and adds a few surprises.

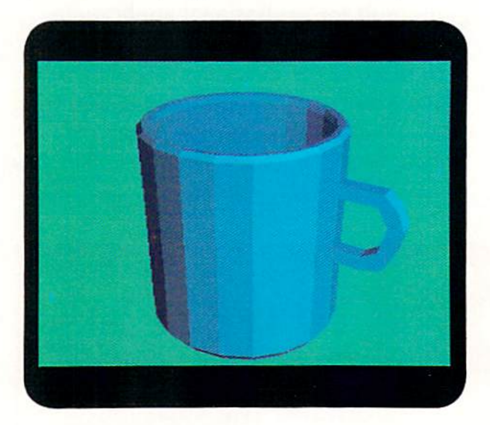
Jr. inherited Sculpt-Animate 4D's improved file requesters and its familiar tri-view window interface, multiple light sources, and sky and ground capabilities. It does not support the light-to-dark background gradation found in other Sculpt versions, though, and the absence of ray-tracing negates the need for surface textures like glass, mirror, and so on. The program operates in all Amiga display modes except HAM (Hold and Modify), and the anti-aliasing capability has been removed. The limited overscan (lo-res 352×220; interlace 352×440; and hi-res 704×440) modes produce a black border along the sides and bottom of the screen. While this makes the program unfit for professional applications, Jr.'s intended audience is amateur.

In place of the Painting, Snapshot, and Photo features of Sculpt-Animate 3D, Jr. offers three modes for rendering: Sketch, Scanline, and Wireframe. Sketch ►

draws solid objects quickly, but produces imprecise polygons that often overlap. Scanline takes more time, but renders objects accurately. As in other Sculpt products, the Wireframe option delivers a 3-D outline of your object.

Among the features that are new to the Sculpt family are a status bar that updates you on the availability of both chip and fast RAM, and indicates the number of vertices, edges, faces, and lamps that are in use. As the program renders a scene, the bar also tells you approximately how much drawing time remains.

Sculpt-Animate 4D Jr. was designed to operate with a minimum of memory and offers two RAM-conservation features: an ability to shut off the Workbench screen and a facility for automatically deleting parts of the program from memory



Even in medium resolution, Jr. does not support HAM.

when they are not in use. The drawback here is that when the deleted code is required, the system must pause to reload.

Animations can be recorded onto disk in the Anim-5 format (the latest Anim version) in such a way as to permit both forward and backward oscillation. The oscillation must be played back using the supplied movie-playback program, in addition to the Anim-5 format.

Like Design 3D, Sculpt-Animate Jr. is key-word copy-protected. Byte by Byte has handled hard-disk access intelligently: Once you install Jr., you need enter a password only the first time you load it from the drive. For subsequent uses, no password is requested.

The excellent program manual includes sections on getting started, building objects, using tools, creating animations, and advanced techniques, plus a full reference guide, glossary, and comprehensive index. A reference card is also included.

Choose Your Weapon

While these two programs are similar, they will appeal to different audiences. Design 3D is directly compatible with Professional Page, Professional Draw, Draw 2000, and VideoScape 3D. To achieve such compatibility through Sculpt-Animate 4D Jr., you must incur an additional cost by purchasing Inter-Change from Syndesis. Design 3D's base price is lower, too. Both programs are good for getting your feet wet in 3-D object creation and animation. Byte by Byte, however, offers the best path for growth. If you take to 3-D design like a duck to water, you will be interested in Byte by Byte's upgrade policy, which credits the price of Jr. toward a later purchase of Sculpt-Animate 3D or Sculpt-Animate 4D. Before you buy one of these introductory programs, consider your future plans. Either way, you won't come up all wet.

Design 3D
Gold Disk Inc.
PO Box 789
Streetsville
Mississauga, Ontario
Canada L5M 2C2
416/828-0913
$99.95
No special requirements.

Sculpt-Animate 4D Jr.
Byte by Byte
Arboretum Plaza II
9442 Capitol of Texas Hwy. N.
Suite 150
Austin, Texas 78759
512/343-4357
$149.95
No special requirements.

Photon Paint 2.0

A tempting touch-up.

By Roger Goode

IN THE SMALL universe of HAM (Hold and Modify—or 4096-color) paint programs for the Amiga, Photon Paint stands out as one of the best. Now Photon Paint 2.0 is here, with more power, more tools, and more appeal than ever before.

At first glance, Photon 2.0 looks the same as the debut version—same palette, same toolbox, same interface. Sure, there are some new menu items, but. . .hey, wait! These are some major-league additions! (For a review of the original Photon Paint, see p. 20 of the August '88 issue of *AmigaWorld*).

Modes Modifications

The first change I noticed is in the Modes menu. Where there had been a single menu for setting your brush mode (including Normal, Blend, Add, and Subtract options) there are now two: the FgMode (foreground) and BgMode (background) menus. For some people, this change alone may justify an upgrade to 2.0. The two menus are distinguished only by their ability to set independent options for the foreground (triggered by the left mouse button) and background (which you call by pressing the right mouse button). This allows you to develop an uninterrupted work flow, and can cut in half the time required to create or modify an image. You could, for example, set one button to create part of a painting and the other to blend or colorize the same section.

The Modes menu includes some powerful new paint tools as well, including Add, Subtract, Maximum, Minimum, Use H (hue), Use H & S (hue and saturation), And, Or, and Xor. Each of these tools modifies the pixels beneath the current brush or colorfill area in a different way, allowing you to create all sorts of colorizing effects. My favorite, Use H & S, lets you colorize black-and-white photographs by modifying hue and saturation without changing the light-to-dark value.

Also under the Modes menu, a section called Source lets you choose the source—Color, Pattern, Pantograph, or Under—from which an operation will be taken. Color, the default, refers to the current palette selection. Pattern lets you create repetitive patterns using the most-

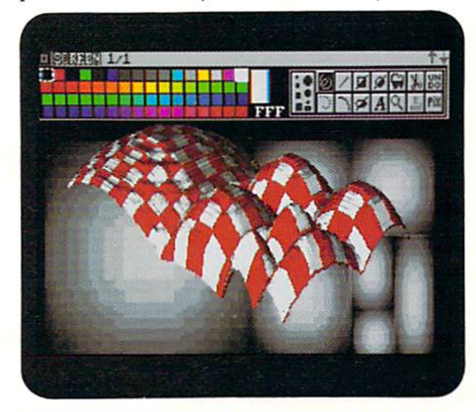
recently selected Pic-brush. Pantograph, which lets you trace one area of a painting—pixel by pixel—directly to another, is great for copying complicated areas that are too difficult to pick up as a brush. It is also handy for retouching photographs, as you can trace part of the adjacent background into the area you want to hide. (Retouching using the brush method invariably creates an unnatural, repetitive pattern, and if you have ever tried it, you will appreciate the Pantograph option.) Under is similar to Digi-Paint's (NewTek) Rub-through tool. It allows you to rub through sections of a painting from a screen situated behind the current one.

All the Source options can be used in combination with any of the other Mode options, allowing for some terrific effects and almost limitless creative potential: watercolor and soft-focus effects, double exposures, and more. Plus, you can create weird characters by mixing and matching features from different faces!

Brush with Success

Under the Brush menu you will find all the original brush options and more. One newcomer is Stretch, which lets you grab any corner of a brush and pull it out for interesting results.

The most notable addition is the Wrap-on submenu's Contour Mapping command. While it is one of the more difficult tools to master, Contour Mapping is bound to be one of the most popular and exciting features of any paint program because of the impressive 3-D effects it generates. You begin by creating a gray-scale topographical map: The lighter spots, which represent the high points, fade into shaded areas, the lower points, and finally into dark valleys.



Contour Mapping: The checkerboard's peaks and valleys are defined by light and dark areas on the monochrome plan underneath.

Then you grab a pic-brush and lay it over the map. After performing some quick calculations, the program presents you with a 3-D wireframe model of your "landscape." You can now move the frame around in three dimensions using the Tilt operation controls (much as a brush is moved in DeluxePaint III's—Electronic Arts—Perspective mode). You can also adjust the relative height and depth of your peaks and valleys by pressing 2 (up) and 1 (down) on the keypad. When you are happy with your wireframe map, press the space bar and take a short break. The program calculates for several minutes, and then displays your contoured pic-brush.

I recommend you use simple picbrushes for your first experiments, as much of the brush will be wrapped onto the backs of the hills and thus obscured from sight. Also, the Luminosity function (which works with all Wrap-on commands) greatly enhances your contour maps when carefully implemented.

Late Projections

An important addition to the Project menu is the Alternate submenu and its set of tools for working with animations—for adding backgrounds, blending animated objects into a background, creating special effects, and refining works in progress. The Alternate submenu holds such commands as Next Page, Previous Page, Insert Page, Append Page, and Delete Page. These give you the flexibility to add as many pages to your animation as memory will allow, and to flip through them easily, making adjustments with any of the paint tools in Photon's bag of tricks. The Copy to Next and Merge to Next commands let you copy backgrounds created in Photon Paint to every cell of your animation, and merge animated objects into the background, respectively. The Animate command, with its definable rate settings, allows you to view your work for- ►

ward, backward, or in a loop—just perfect for fine-tuning.

These selections do not add up to a full-featured animation package, and you will need such a dedicated program for serious animation work. I found that working with Photon Paint's animation tools can be tedious and time consuming, as some operations involve repetitive steps. Also, Photon Paint recognizes only Anim files created in specific formats (standard Amiga screen size HAM). Still, I appreciate the option of bringing Photon Paints' sophisticated paint tools and all 4096 HAM colors into an animation.

Something Special

The first two entries on the Special menu are nearly identical to their namesake options in DeluxePaint III. Cycle Draw paints with continuously changing colors from a preset range on the color palette; you can use it in combination with most other paint operations and modes. Of a more practical nature is Grid: Define the size of a single grid block and select this option to confine your current brush or painting operation to drawing on the vertices.

Once you have used the Stencil tool a few times, you will wonder how you got along without it. By drawing a freehand line around a given area of a painting, you can create a transparent mask that protects it from subsequent paint operations. The function can be inverted so that operations affect only the outlined area and not the rest of the painting.

Finally, the Shadow option creates a drop shadow under any shape or brush placed on the screen. You can define the angle and depth of the shadow, and, by using the mode setup of the background brush (which paints the shadow), you can carefully control the shadow's color and composition.

Preferential Treatment

Through the Preferences menu you can choose your working format (NTSC, PAL, Interlaced, or Overscan), and set a number of parameters such as Coordinates, Keep Undo, and Keep Brush, which gives you access to a little extra memory by letting you toggle off a buffer space that holds the last screen and pic-brush. The Clear to First option saves you from having to stop and change your background color setting every time you clear the screen. When you clear, this feature resets the screen to the first color on your palette. Nicest of all in the Preferences menu is the Save Prefs option, which lets you save favorite settings and parameters to disk to be reloaded each time you boot up the program.

That's Not All

A few other points of special interest include ColorFonts support on the fonts menu, a new Fill Polygon tool, and a polygonal brush-grabbing tool.

Photon Paint 2.0 is not copy protected, and while it will run on just 512K, I recommend at least one megabyte plus a second disk drive. The manual is well written, and assumes no prior knowledge of the machine. It would benefit, though, from screen photos or diagrams to illustrate requesters and setup windows. Also, the tutorials section neglects or glosses over a couple of items (including Contour Mapping) that I feel need further explanation.

Nonetheless, Photon Paint 2.0 is a winner. It's easy and fun to learn, has loads of options—including minor touches that make working more pleasant—and is probably the best single tool on the market for creating special graphics effects.

Photon Paint 2.0
MicroIllusions
17408 Chatsworth St.
Granada Hills, CA 91344
818/360-3715
800/522-2041
$149.95
One megabyte required.

Lattice 5.02

Another step up.

By David T. McClellan

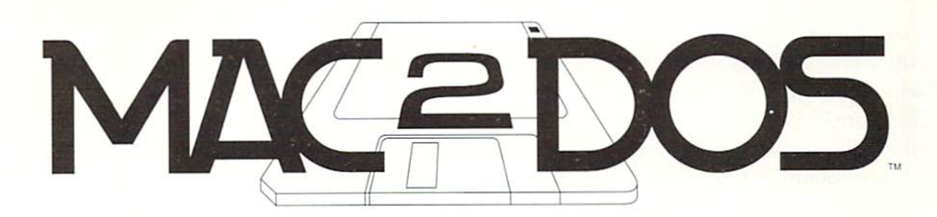
EVEN THOUGH THE first few versions produced large executables and were a bit rocky, Lattice C was *the* C compiler in the early days of the Amiga. Later, Manx gave Lattice some competition with Aztec C, which compiled faster and smaller programs. Lattice's latest response is version 5.02, a package containing a better compiler and linker, more tools, and the ability to create smaller executables. I like to see free enterprise work to the benefit of the consumer!

In this release, Lattice has improved the code generator and global optimizer, added some minor features to the language for Amiga tailoring, tossed in an assortment of tools formerly available only under separate cover (the $100 Compiler Companion package), and greatly improved their manual set. The company has also added a source-level debugger that is so good it is almost worth the price of admission by itself.

Words are Key

In the language arena, several new keywords help Amiga programmers simplify their coding (although you sacrifice portability by using them). The keywords near, far, and huge describe pointer types (16 or 32 bit), while the keyword chip indicates a data object that must reside in the Amiga's chip memory. Keywords __regargs, __stdargs, and __asm describe parameter-passing mechanisms to subroutines, while __saveds and __interrupt provide extra information about the subroutine's runtime requirements. I recommend you use these with care. The double underscore prefix, which you can also use on near, far, and so on, provides for conformance with ANSI C's language-extension mechanisms.

When used with the -O optimization option, the compiler generally produces faster code than normal compiles; programs I linked with 5.02 turned out somewhat smaller than when I used version 4.0 on them, and they often showed ►



Mac-2-Dos lets you read and write Macintosh diskettes on your Amiga!

Mac-2-Dos gives your Amiga the power to read and write files to and from 400k and 800k Macintosh floppy disks using a standard Macintosh-compatible 3.5-inch external floppy disk drive connected to your Amiga.

Here are a few typical Mac-2-Dos uses: ✔ Amiga users can now have access to the extensive variety of Macintosh clip art available on Macintosh disks! ✔ Amiga users can now take their Amiga PostScript files (on a Macintosh diskette) to most any typesetting service bureau to be output on professional typesetting equipment! ✔ College students who are required to have a pricey Macintosh can now choose the Amiga and still meet the requirement of being Macintosh compatible! ✔ Amiga users can transfer all kinds of files, like word processing and desktop publishing files, spreadsheet files, or database files. ✔ Musicians can quickly and easily transfer Standard Midi Files (SMF) between the Macintosh and Amiga!

Mac-2-Dos includes a custom hardware interface, driver software, file conversion software, and, optionally, a Mac-compatible 3.5-inch floppy drive. The hardware interface plugs into the Amiga external disk drive connector or into the last external drive of the daisy-chained disk drives. The Mac drive draws its power from the Amiga.

PACKAGE A: Package A includes a custom hardware interface, file transfer software, and file conversion software. **Only $99.95***

PACKAGE B: Package B includes a custom hardware interface, file transfer software, file conversion software, a Mac-compatible 3.5-inch floppy drive, and a software driver to allow the Mac drive to be used to read and write standard AmigaDOS diskettes as well. **Only $349.95†**

LIMITATIONS: Mac-2-Dos is a disk file transfer utility program; it is not a communications program, nor is it a Macintosh emulator. It DOES NOT permit Mac programs to run on the Amiga.

* Plus $3.00 shipping/handling, † Plus $5.00 shipping/handling
CO residents add appropriate sales tax.

QUARTERBACK™

The FASTEST Hard Disk Backup Utility!

"Many in the Amiga community consider Quarterback V2.2 the standard of our community.... My overall impression of Quarterback is smooth and complete.... For the average Amiga harddrive owner, Quarterback is still the utility of choice."

- Steve Dock, ***The Amiga Sentry****, March, 1989*

"...Quarterback is the program I've chosen to keep my hard disk backed up.... Given the added power and lower price of Quarterback, it would be my first choice for a hard disk backup program."

- Matthew Leeds, ***Commodore Magazine****, June, 1989*

"The fastest of the lot, Quarterback V2.0 copied my 4.3 megs to five floppies in four minutes and fifty seconds. The user interface is smooth and intuitive, the process painless and reliable, and the speed a good sight better than even second runner up.... There are just enough gadgets around to make things easy, and not so many as to make them confusing. This is the program we use to back up our hard disk and Bernoulli data."

- Mark R. Brown, ***INFO #26****, May/June, 1989*

Only $69.95 Plus $3.00 shipping and handling, CO residents add sales tax.

Coming Soon! **QUARTERBACK TOOLS**
A collection of high-quality user-friendly utilities.



Transfers MS-DOS and Atari ST files to and from AmigaDOS!

It transfers both binary (pure data) and ASCII (text) files.
Let DOS-2-DOS be your PASSPORT to the world of foreign disk formats.

Only $55.00
Plus $3.00 shipping and handling, CO residents add appropriate sales tax.



Central Coast Software
424 Vista Avenue
Golden, Colorado 8040
Phone 303 / 526-1030
FAX 303 / 526-0520
Dealer Inquiries Welcome



Circle 143 on Reader Service card.

better performance in long loops. Lattice also allows you to tailor your math libraries and code around IEEE, Motorola FFP, or 68881 floating-point processors, so you have the option of making speed and accuracy tradeoffs in your Fast Fourier transform. The compiler churns out code quickly, and rarely cascades error messages. My only complaint is that it is noisy; I get tired of seeing Lattice copyright and version notices and information messages for every file I compile or link, particularly when I do so via makefile, as this exaggerates the problem.

TOOLING AROUND

The Compiler Companion toolkit, which is now standard equipment, contains a full-screen editor, a C cross-referencer, Unix-derived tools (such as diff to compare two versions of a file, grep to look for text patterns in files, splat to seek patterns and modify them quickly), and a few other implements. Best of all is lmk—Lattice's version of the make tool—which uses a simple programmer-created text database (a makefile) to rebuild programs. Your makefile lists dependencies between files, such as: "program X is made from source files A.c and B.c," along with rules for regenerating those files when source variables change. To save myself from writing reminders of what to do when I finish editing, I create a makefile for every project I work on, and let lmk direct the recompilation and linkage of the pieces it needs.

As in version 4.0, the compiler also comes with an assembler, disassembler, librarian, and the Blink linker, as well as a profiler, listing generator, and a few other assorted tools.

PROBING THE DEPTHS

My favorite part of this release is the CodePRobe debugger. Unix's sdb and dbx debuggers suffer from having to be generic in their machine views and user interfaces. CodePRobe, on the other hand, can afford the luxury of making the most of the Amiga's multi-window Intuition interface and its 68000-AmigaDOS combination. It gives you several resizable views of the program: a source window (showing C source, assembly source, or mixed-mode), a register window, a watch window (displaying the variables CodePRobe is checking for modification), and a dialog window (wherein you enter commands and read responses). It displays variables, pointers, arrays, and structs in C source mode, hexadecimal, or string, and lets you set their values (simple scalar values only, not full-struct assignment). You can set multiple breakpoints with or without counts, conditions, or attendant commands attached, single-step through the code and over or into subroutine calls, all at C or assembly level. You can have the program monitor several variables and tell you when their values change and why (this function is necessarily slow). It even has some support for debugging multiple-task applications. CodePRobe does have a few limits—a minor problem in setting a variable to a floating point value, for example—but it is an excellent debugger.

FINAL CODE

You will need a good bit of scratch space on your project disks when compiling large programs with the "include debugging info" switch to the compiler. The symbol information included in the object files and executable can expand them to two to four times the size of non-debugging versions. You don't need more memory to run them, however, except to load CodePRobe alongside the program. I have 1.5 megabytes (with half a meg reserved for RAD:), and had no problem with debugging some sizable programs. CodePRobe can debug programs that have not been compiled with the —d debugging switch as well, but here you are stuck at the assembly-language level.

Version 5.02 is a good deal for the money—especially if you are upgrading from 4.0 as I did for $75. The addition of the Compiler Companion tools and CodePRobe debugger alone were worth the upgrade fee. Lattice 5.02 does eat more disk space than 4.0, and you cannot fit all the compile/link/debug cycle tools on a single floppy disk, but even on a floppy-only system the disk juggling is not too bad. I recommend 5.02 heartily.

Lattice 5.02
Lattice
2500 S. Highland Ave.
Suite 300
Lombard, IL 60148
312/916-1600
800/533-3577
$300
No special requirements.

CLAS

Lesson-planning assistance for teachers.

By Neil Randall

WHILE MICROED'S CLAS (Computerized Lesson Authoring System) will never take the place of your own painstakingly-developed-over-the-years Lesson Planner, it can serve as a valuable addition to that old standby. Factual, objective information from your lesson plans can be incorporated into CLAS lessons, presented to students at their own pace, and reinforced through test questions or exercises that the students can initiate themselves.

CLAS makes no attempt to provide assistance in planning the subject matter for a lesson; it is meant to help you organize the presentation of your material and select the methods of testing. If you make no larger assumptions about what CLAS can do, the program succeeds in its overall design—although it has some limitations that you will need to take into account in judging its worth to you.

CRASH COURSE IN CLAS

Apart from a single standard-size sheet of paper largely dedicated to brief descriptions of CLAS commands, no written documentation accompanies the three-disk package. To learn how the program works, simply boot up the CLAS Tutorial disk and select Tutorial from among the sample lessons. This

course leads you to several examples, each demonstrating another aspect of the authoring system; it covers such items as starting your courses and lessons, and writing multiple-choice or fill-in-the-blank exercises and tests. After you have completed these tutorials, the program urges you to try writing a lesson on your own, advice that is wise to take.

To write a lesson, you load the CLAS Author program, type in $COURSE and then your class title (this tells CLAS that you are starting a new course). If you wish, you can use the $AUTHOR command to include your name on the next line, followed by any copyright information (using the $COPYRIGHT command). You tell CLAS you are starting a new lesson by typing $LESSON and another title. Now you can begin typing in your actual lesson.

Let's say, for example, that you are writing a lesson about initializing disks with Workbench and the Amiga 500. You might begin with a screen of information to the student, a simple text passage explaining why you format disks:

When you buy a box of disks, you can't just put one of them into your Amiga's disk drive and expect it to work. First, you must initialize it. When you initialize a disk, it will have room to store 880K worth of Amiga files, and it will work with any Amiga program.

Now type $PAGE to get CLAS to clear the screen so that you can test the student's recall of that information with an exercise or question in whatever format you wish. For example, you might type:

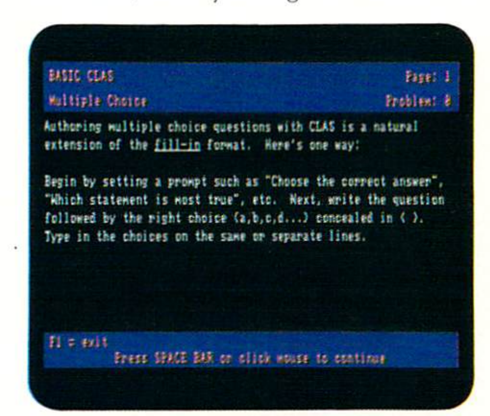
In order to use a new disk you've just taken out of the box, you must use the Amiga to <initialize> it. Doing so prepares the disk with <880>K of storage space for your Amiga files.

When the student actually runs your lesson, he or she will read:

In order to use a new disk you've just taken out of the box, you must use the Amiga to ___ it. Doing so prepares the disk with ___K of storage space for your Amiga files.

The cursor will appear on the first blank, prompting the student to type in an answer. If he or she makes a mistake, even if it's only a typographical error, the screen will flash and beep; if the student fills in the blank correctly, the Amiga's voice will respond with the reinforcement you have chosen—"Good," "Excellent," or whatever.

This example represents only one way of constructing a lesson. You could follow the blanks with several choices in parentheses, thereby letting the student



Get educated on lesson-making options with the CLAS tutorial.

select rather than remember the correct answer, as in:

You must use the Amiga to ___(melt, amplify, initialize, prepare) *the disk.*

You could also structure the responses as multiple choices:

Doing so prepares the disk with ___K of storage space.
(a) 720
(b) 880
(c) 64
(d) 1040ST

In this case, as author you would have typed <b> immediately before the K. Then as soon as the student pressed the B key, the answer would be accepted.

The program is structured so that the student can get the correct answer by pressing the Help key. You can tailor the ►

Help response by using the $HINT command to provide the student with a series of increasingly specific hints before the actual correct answer appears. But in all cases, CLAS keeps track of the number of right and wrong answers your student gives.

THE FINER POINTS

Those are the basics—the very basics—for putting together a CLAS lesson. Many other options are available, allowing you to design and control the presentation of your lessons. With the $STYLE command you can select text styles (italic, boldface, underline, and so forth) and text color (blue, white, or yellow with appropriately contrasting backgrounds) and any combination of these styles (for example, $STYLE YELLOW BOLD ITALIC). $FONT provides you with access to all Amiga fonts. $JUSTIFY, followed by CENTER, RIGHT, or LEFT, places text where you want it on the screen. There is a bug in the $JUSTIFY CENTER command, however, that causes different screen colors to be displayed before and after text is inserted. Thankfully, this does not seem to affect the commands in any operational way.

$PICTURE lets you load any IFF (Interchange File Format) file smaller than 640 × 400 pixels into your lesson; you can incorporate small pictures as part of a combined text-picture screen.

You can add speech with the $SPEECH and $SAY commands, and music with the $PLAY command. In the latter case, though, you must enter individual notes somewhat cryptically (using text, not music notation). $CHORD expands the musical capabilities.

Finally, you can add IFF 8SVX (a standard format used for storing digitized sound) files as well.

The many other options that are available in CLAS—a number of them having to do with scoring answers or working with variables—emphasize the point that MicroEd has built a considerable amount of flexibility into the program. With its large variety of commands, you should be able to create almost exactly the kind of quiz-style lessons you need. Versions of CLAS are available even in Spanish, French, and German.

Although CLAS has a good deal to offer, I feel the program needs a further revision. Currently you cannot move the cursor with the mouse, and this is extremely annoying when you are trying to create your lessons. Also, basing the student's right or wrong answers on individual keystrokes is inappropriate, because it is too difficult to come up with options in many cases. The Test command needs improvement as well; you can test your lessons as you design them, but if CLAS finds an error, it kicks you out of Test mode, forcing you to reload the CLAS Student program.

If these flaws are addressed in a new release, and if you are not expecting the program to prepare your lessons for you, CLAS could be a useful aid for teachers on the elementary and junior-high levels, or even for parents who want to put together special-subject lessons for their children at home.

CLAS 1.2
MicroEd Inc.
PO Box 24750
Edina, MN 55424
619/929-2242
$99
No special requirements. ■

SOFTWARE DISCOUNTERS OF AMERICA

S.D. of A.

USA/Canada Orders—1-800-225-7638
PA Orders—1-800-223-7784
Customer Service 412-361-5291

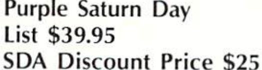
- Free shipping on orders over $100 in continental USA
- No Surcharge for VISA/MasterCard
- Your Card is not charged until we ship

ORDER LINE HOURS: Mon.-Thurs. 9:00 AM-9:00 PM Fri. 9:00 AM-7:00 PM Sat. 10:00 AM-4:00 PM Eastern Time.





Compete against 7 aliens in 4 action events to score the most treasured prize in the Galaxy.



Purple Saturn Day
List $39.95
SDA Discount Price $25

ABACUS
Assem Pro $49
Becker Text $89
Professional Data Retrieve ... Call
Text Pro Word Processor ... $49
*Abacus Books in Stock! ..... Call

ACCESS
W.C. Leader Board $29

ACCOLADE
Bubble Ghost $23
Fast Break $29
4th & Inches Football $29
4th & In. Team Const. $9.88
Grand Prix $26
Hardball $25
Jack Nicklaus Golf $32
J.N. Golf Champ Courses $14
Test Drive 2: The Duel $29
T. Drive 2 Calif. Scenery $14
T. Drive 2 Super Cars $14

ACTION WARE
Capone $25
Phaser Gun $39
Prison $25

ACTIVISION
Battle Chess $32
Beyond Dark Castle .... Call
Neuromancer $29
Rampage $25
Shanghai $14

AEGIS
Amiga Graphics Starter Kit ... $65
Animagic $65
Audio Master 2 .... $59
Draw 2000 .... $169
Lights, Camera, Action! $49
Videoscape 3D $129
Video Titler $89

ANTIC
Bo Bo $23
Crash Garrett $25

GFA Basic 3.0 .... $95

ARCADIA
Double Dragon $26

ARTWORX
Bridge 5.0 .... $23
Centerfold Squares $19
Colossus Chess X $23
Daily Double Horse Racing ... $19
Jigsaw Puzzlemania $19
Linkword Languages .... Call
Strip Poker 2 .... $25
S.P. Data Disk 4 or 5 .... $14 Ea.
Tank Attack $19
World Snooker $16

BAUDVILLE
Video Vegas $23

BETHESDA
Gretzky Hockey $32
Gridiron $19

BRODERBUND
Carmen San Diego World $29
Fantavision $39
Operation: Clean Streets $25
Sim City $29
Sky Chase $25
Space Racer $19
Star Wars $25

BYTE BY BYTE
Animate 3-D $99
Sculpt 3-D $65

CENTAUR
B.A.D. Disk Optimizer $32
Sculpt Animate 4D Jr. $95

CINEMAWARE
Defender of the Crown $32
It Came From The Desert .... Call
King of Chicago $16
Kristal $32
Lords of Rising Sun $32
Rocket Ranger $32

S.D.I. $16
Sinbad $16
TV Sports Football $32

DATA EAST
Bad Dudes $29
Batman $29
Platoon $29
Super Hang-On $29

DATASOFT
Hunt for Red October $32
Sorceror Lord $23
Time & Magik $26

DESIGNWARE
Designasaurus $32

DIGITEK
Hole in One $25
Hole in One Course Disk 2 or 3 .... $14 Ea.
Hollywood Poker (X-Rated, Digitized) $23
Joe Blade $19

DISCOVERY
Arkanoid $19
Better Dead Than Alien $23
Sword of Sodan $32
Zoom! $19

ELECTRONIC ARTS
Artura $26
Bard's Tale $32
Bard's Tale 2 .... $39
Battlehawks 1942 .... $32
Chessmaster 2100 .... Call
Deluxe Music Const. $65
Deluxe Paint 3 .... $99
Deluxe Photo Lab $99

FREE SPIRIT
Amiga Alignment System $32
Sex Vixens From Space $25

FTL
Dungeon Master $25

GAMESTAR
GFL Champ. Football $14

GOLD DISK
Comic Setter $59
Desktop Budget $44
Movie Setter $59
Professional Draw $129
Professional Page $249

INFOCOM
Battletech $32
Beyond Zork $14
Journey $32
King Arthur: The Quest $32
Shogun $32
Zork Trilogy $19
Zork Zero $39

INKWELL
Amiga Light Pen 2.0 .... $89

MANDARIN
Lombard Rally $25

MASTERTRONIC
Scrabble $26

MELBOURNE HOUSE
War in Middle Earth $32

MICHTRON
Airball $25
Fright Night $25
Goldrunner 2 .... $25
HiSoft Pro. Basic $99
Talespin $32

Ask your salesperson: "What's on Sale this Month?"

Deluxe Productions $129
Dragon Force $32
Empire $32
FA/18 Interceptor $32
Ferrari Formula One $32
Firezone $21
Indiana Jones Last Crusade ... $26
Instant Music $14
Life & Death .... Call
Marble Madness $14
Populous $32
Powerdrome $26
Skyfox 2 .... $14
Star Fleet 1 .... $36
Weaver Baseball $32
Weaver B.B. 88 Stats $14
World Tour Golf $14
Zak McKracken $29
Zany Golf $26

EPYX
Axe of Rage $32
Battleship $19
California Games $32
Death Sword $19
Devon Air $32
Final Assault $19
4x4 Off Road Racing $9.88
Impossible Mission 2 .... $19
Mind-Roll $19
Project Neptune $24
Purple Saturn Day $25
Revenge of Defender .... Call
Space Station Oblivion $19
Street Sports Basketball $14
Sub Battle Simulator $9.88
Technocop $32
The Games: Winter Ed. $32
Winter Games $9.88
World Games $9.88

Time Bandit $25

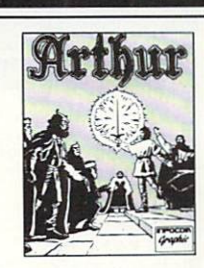
MICROILLUSIONS
Blackjack Academy $25
Craps Academy $25
Faery Tale Adventure $32
Fire Power $16
Music X $193
Photon Paint 2.0 .... $95
Romantic Encounters $25

MICROPROSE
Gunship $35
Silent Service $25

MICROSYSTEMS
Excellence W.P. $159
The Works—Platinum $179

MINDSCAPE
Action Fighter $25
Alien Syndrome $25
Balance of Power $25
Balance of Power 1990 ...... $32
Blockbuster $25
Captain Blood $32
Combat Course $25
De Ja Vu 1 or 2 .... $32
Fiendish Freddy's Big Top .... Call
Gauntlet 2 .... $32
Harrier Combat Sim. $32
Hostage $29
Indiana Jones $25
Joker Poker $9.88
Outrun $33
Perfect Score SAT $49
Road Raider $25
Shadowgate $32
Space Harrier $32
Super Star Ice Hockey $32
Thunder Blade $32
Uninvited $32

INFOCOM



This graphic interactive story casts you as the youthful Arthur on a quest for Excalibur, the legendary sword that will make you King of England.

King Arthur
List $49.95
SDA Discount Price $32

NEWTEK
Digi-Paint $39
Digi-View Gold $139

ORIGIN
Times of Lore .... Call
Ultima 4 .... $39

PRECISION
Superbase Personal 2 .... $95
Superbase Profess. 3 .... $189

PSYGNOSIS
Baal $19
Ballistix $23
Blood Money $25

RAINBIRD
Carrier Command $29
Universal Military Simulator .. $32

READYSOFT
A-Max (ROMS RQ) .... Call
Dragon's Lair $39

SEVERA HINT DISKS
Bard's Tale (H. Disk) $14
Dungeonmaster (H. Disk) $14
Heroes of Lance (H. Disk) $14
Shadowgate (H. Disk) $14

SIERRA
Black Cauldron $25
Gold Rush $25
King's Quest 1, 2, or 3 .... $32 Ea.
Leisure Suit Larry $25
Manhunter $32
Mother Goose $19
Police Quest $32
Space Quest 1 or 2 .... $32
Thexder $23

SOFTLOGIC
Pagestream $129

SPECTRUM HOLOBYTE
Falcon $32
Tetris $23

SSI
Demon's Winter $26

Heroes of the Lance $26

SPOTLIGHT
Dark Side $25
Deathbringer $25
Federation $32
Speedball $25
Total Eclipse $25

SUBLOGIC
Flight Simulator $32
Jet $32
Scenery Disks .... Call

TAITO
Bubble Bobble $23
Operation Wolf $23
Qix $23
Rambo 3 .... $23
Renegade $23
Sky Shark .... Call

THREE-SIXTY
Dark Castle $25
Warlock $23

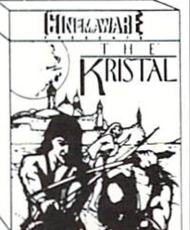
UNICORN
Aesop's Fables $29
Math Wizard $29
Read & Rhyme $29

UNISON WORLD
Art Gallery 1 or 2 .... $19 Ea.
Art Gallery: Fantasy $19
Fonts & Borders $23
Print Master Plus $25

WORD PERFECT
Word Perfect W.P. .... Call

ACCESSORIES
Air Drive Internal $119
Air Drive External $149
Bonus 3½ DSDD $11.99
Disk Case (Holds 45) $6.88
Disk Drive Cleaner $6.88
Mouse Pad 8½ x 11 .... $6.88
Sony 3½ DSDD ...... $16.90 Bx.
Supra Hard Drives .... Call
Wico Bat Handle $17
Wico Ergostick $19

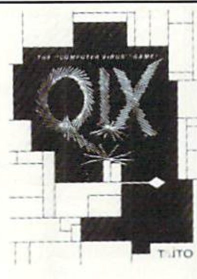
CINEMAWARE



As a swashbuckling space pirate you'll battle ruthless villains & interact with strange alien life forms. Incredible animation. Fiendish puzzles.

The Kristal
List $49.95
SDA Discount Price $32

TAITO



The game that dominated the video arcades & college campuses in the early '80s is here! Billions of levels with escalating intensity.

Qix
List $29.95
SDA Discount Price $19

P.O. BOX 111327—DEPT. AMW—BLAWNOX, PA 15238

Circle 128 on Reader Service card.

*Please Read The Following Ordering Terms & Conditions Carefully Before Placing Your Order: Orders with cashiers check or money order shipped immediately on in stock items! Personal & Company checks, allow 3 weeks clearance. No C.O.D.'s! Shipping: Continental U.S.A.-Orders under $100 add $3; free shipping on orders over $100. AK, HI, FPO, APO-add $5 on all orders. Canada & Puerto Rico-add $7.50 on all orders. Sorry, no other International orders accepted! PA residents add 6% sales tax on the total amount of order including shipping charges. CUSTOMER SERVICE HOURS: Mon.-Fri. 9 AM-5:30 PM Eastern Time. REASONS FOR CALLING CUSTOMER SERVICE—412-361-5291 (1)Status of order or back order (2)if any merchandise purchased within 60 days from S.D.of A. is defective, please call for a return authorization number. We will not process a return without a return auth. #! Defective merchandise will be replaced with the same merchandise only. Other returns subject to a 20% restocking charge! After 60 days from your purchase date, please refer to the warranty included with the product purchased & return directly to the manufacturer. Customer service will not accept collect calls or calls on S.D.of A.'s 800# order lines! Prices & availability are subject to change! New titles are arriving daily! Please call for more information.

MODEM OWNERS: You can order from our Amiga Shop via the CompuServe, GEnie and Q-Link electronic malls.

BRiWALL

Our Fourth Year In Business! We Know How To Service Our Customers!

SOLID PRODUCTS & SOLID SUPPORT

P.O. Box 129 / 58 Noble Street
Kutztown, PA 19530

24 HOURS — TOLL FREE
1-800-638-5757
OUTSIDE USA CALL 1-215-683-5433

SATISFACTION GUARANTEED
No Surcharge On Charge Orders
Friendly Service
Customer Service Business Hours M-F, 9-5 EST

ACCESSORIES

Item	Price
2 Midi Interface Cables each	$15
Amiga Monitor or Dsk Drv Extensn	19
Cable Connector BNC M/RCA F	2
Composite Video Cable RCA M/M 6'	3
Control Center	79
Copy Stand with Lights	65
ECE Midi 1000	49
ECE Midi 500/2000	49
Gender Changer/Parallel Adapter	21
Ink-Black Cart.-Canon 1080A	12
Ink-Color Cart.-Canon 1080A	18
Ink 60ml Bottle	
Black, Cyan, Magenta, Yellow	40
Ink 5ml Cartridge	
Black, Cyan, Magenta, Yellow	5
Ink Adapters for Canon PJ1080 et al	2
Joystick-Bat Handle	22
Joystick-Ergo Stick	22
Joystick-Super 3 Way	25
Lightpen for Amiga	89
Modem-Commodore 1680	69
Modem-Mini A1000	79
Modem-Mini A500/A2000	79
Modem-Supra 2400 w/o cable	139
Modem Cable 500/2000 6 feet	17
Monitor Cable Amigen to 1084	21
Mouse-Boing Optical	95
Okimate Plug N Print-Amiga 500	75
Paper Canon PJ1080A-Roll	8
Paper H.P. Paint Jet	30
Printer Cable 500/2000 Parallel Printer 6 ft.	18
Printer Cable 500/2000 Serial Printer	16
Ribbon - Okimate 10/20 Black/Color	6
Ribbon Renew-Re-Ink w/no Equip	5
Star NX1000R Color Ribbon	9

BOOKS

Item	Price
1001 Things to do with Amiga	11
AMIGA C for Beginners +	15
Amiga C-Advanced Prgrmmers +	22
Advanced Amiga BASIC Book	15
AudioTools Disk/Robert Peck	12
Machine Lang Prog Guide	17
Amiga 3D Graphics Prgrmmng +	17
AmigaBASICInside&Out Book +	20
Amiga DOS Inside&Out Book +	17
Amiga DOS Manual	20
Amiga DOS QUICK Ref Manual	12
Amiga DOS Reference Manual	19
Amiga Disk Drives Inside&Out +	24
Amiga Machine Language Book	17
Amiga Microsoft Prog Guide	17
Amiga Programmer's Guide	15
Amiga System Progrmr's Guide	27
Amiga Tips & Tricks Book	17
Amiga for Beginners	15
More Amiga Tips & Tricks +	17
Programmer's Guide to Amiga	22
Prog Guide Amiga-C Language Disk	12
Prog Guide Amiga-Modula 2 Disk	12
ROM KernRefExe&Lib&Devic	28
Elementary Amiga BASIC Book	13
Inside Amiga Graphics	15
Inside the Amiga With C	21
Disks for Books	12

GENERAL BUSINESS

Item	Price
Advantage (The)	54
Citydesk v 2.0	$129
Desktop Budget	52
Easy Ledgers	199
Excellence(specify 512K or 1meg)	169
Family Tree (Your)	35
Fine Print	35
KFS Accountant	195
Kindwords	69
Magellian	139
MaxiPlan Plus	125
Microfiche Filer	69
Microfiche Filer Plus	119
Microlawyer	39
Nimbus Accounting v1.3*	109
Organize-Platinum Edition	69
Pen Pal	99
P.H.A.S.A.R.v3.0	69
Page Setter	90
Page Stream	129
Page Stream DotMatrix Fonts1-4each	27
Prowrite v 2.0	75
Project Master	135
Professional Pages 1.1	249
Publisher's Choice	135
Publisher Plus	64
Scribble-Platinum	99
Security Analyst	49
Shakespeare	89
Scribble-Platinum	99
Tx Ed Plus	59
Who What When Where	69
Word Perfect	179
Works - Platinum Edition	199

EDUCATIONAL

Item	Price
Adventures of Sinbad	$ 32
Aesop's Fables	32
All About America	39
Animal Kingdom (Wonders of)	32
Decimal Dungeon	32
Dinosaur Discovery Kit*	29
First Letters/Words	30
First Shapes	30
Fraction Action	32
Kid Talk	30
Kinderama	32
Linkword: Fr, Ger, Ital, Sp each	24
Math Talk	30
Math Talk Fractions	30
Math Wizard	32
Math-amation (College)	55
Mavis Beacon Typing	36
Mother Goose	25
My Paint	36
Perfect Score SAT	55
Puzzle Storybook (The)*	29
Read & Rhyme	32
Read A Rama	32
Smooth Talker	30
Speller Bee	29
Word Master	32

ENTERTAINMENT

Item	Price
AD&D Heroes of the Lance	$29
Alien Syndrome	29
Arkanoid	20
Aunt Artic Adventure	29
Awesome Arcade Pak	36
Baal	24
Balance of Power 1990	36
Ballistix	27
Barbarian	28
Bard's II: Destiny Knight	39
Bard's Tale I	33
Bard's II: Clue Book	12
Batman	32
Battle Chess	36
Battlehawks 1942	36
Battle Tech	36
Blackjack Academy	27
Blood Money	29
Breach	27
Bride of the Robot	29
Bridge 5.0	25
Bubble Bobble	27
Bubble Ghost	27
California Games	29
Capone	27
Captain Blood	36
Carrier Command	32
Centerfold Squares	24
Chessmaster 2100	36
Chrono Quest	36
Craps Academy	32
Dark Side	29
Death Bringer	29
Defender of the Crown	33
Double Dragon	29
Dragon's Lair	39
Dungeon Master	28
Earl Weaver Baseball	35
Earl Weaver's Commisioner's Disk	17
Empire	36
Fast Break	32
F18 Interceptor	36
Faery Tales	32
Falcon	35
Federation*	29
Flight Simulator 2	35
Fourth & Inches	29
Galileo 2.0	49
Gone Fish'n (Reel'n Fish'n)	35
Grand Slam Tennis	36
Gunship	38
Head Coach	36
Hole In One Miniature Golf	26
Hollywood Strip Poker	27
Hostage	32
Hybris	27
Ice Hockey-Super Star	35
Ice Hockey: Wayne Gretsky	35
It Came from the Desert*	35
Jet	35
Joker Poker	37
Kingdoms of England	32
King of Chicago	33
Kings Quest III	36
Krystal*	35
Lance-A-Lot	29
Last Inca	32
Leaderboard World Class	29
Leisure Suit Larry V2	36
Lord of the Rising Sun	36
Magic Johnson's Basketball*	36
Manhunter	36
Mean 18 Golf	27
Operation Wolf	27
Out Run	37
Phasar Gun	42
Pioneer Plague	29
Planet of Lust *NEW*	29
Populus	35
Port of Calls	32
President's Missing (The)	29
Prison	00
Questron 2	36
Quix	29
Rustal	27
Reach for the Stars	29
Renegade	29
Rocket Ranger	36
Roger Rabbit	33
Scrabble	29
Sex Vixens from Space	19
Sex Vixens Hint Sheets	5
Speedball	29
Shadow Gate	33
Shangai	27
Space Quest 2	36
Star Fleet 1	39
Star Glider 2	32
Star Wars	27
Stellar Conflict	27
Strip PokerII	29
Sword of Sodan	34
TV Sports Football	36
Technocop	36
Test Drive 2	34
Tetris	25
Three Stooges	33
Time & Magic	29
Total Eclipse	29
TriPack(PresMiss, DefCrwn5, Suptly	29
Twilight Zone	29
Ultima IV	39
Universal Military Simulator	35
Video Vegas	25
Virus	25
War and Middle Earth	36
Where is Carmen (world)	27
Zach Macrakin	32
Zany Golf	33
Zoom	20

CHECK YOUR CURRENT MAILORDER HOUSE! DO THEY?

- ☐ Advertise their shipping policy
- ☐ Offer fast, friendly and reliable service
- ☐ Have a fair return/exchange program
- ☐ Have 24 hour toll-free ordering
- ☐ Have in-house technical support
- ☐ Treat you with respect & value

IS PRICE YOUR ONLY CONCERN? CALL US & SEE HOW EASY MAILORDER CAN BE!

CREATIVITY/GRAPHICS

Item	Price
AniMagic	$69
Animate 3D	99
Award Maker Plus	35
Broadcast Titler	199
Business Card Maker	37
Calligrapher v 1.05	79
Celebrity Cookbook	27
Comic Setter	69
Comic Setter Clip Art EACH	25
Deluxe Paint v2.0	72
Deluxe Paint v3.0	109
Deluxe Photo Lab	99
Design Disks EACH	25
Digi-Paint	40
Digiview 3.0	139
Digiview Gold for A500/A1000	139
DigiWorks	89
Director	49
Draw 2000	169
Express Paint V3	89
Fantavision	49
Forms in Flight 2	89
Home Builder's CAD	135
Intro CAD	52
Invision by Elan Design	139
Lights, Camera, Action	59
Masterpiece Amiga-Fonts/Clip Art	165
Modeler 3-D	69
Movie Setter	69
Page Flipper Plus FX	99
Page Render 3D	99
Perfect Vision	185
Performer	42
Photon Paint	44
Photon Paint v2.0	109
Photon Video Cel Animator	99
Pixmate	45
Printmaster Art Galleries EACH	22
Printmaster Plus	33
Professional Draw	139
Pro-Net 20	415
Pro Video Plus	199
Sculpt/Animator 4D Junior	105
Sculpt/Animate 4D	389
Sculpt 3D	69
Spritz	55
TV Show	65
TV Text	65
Turbo Silver	139
Video Scape 3D 2.0	139
Video Titler 1.1	99
X-Specs	92
Zoetrope	89
Zuma Fonts-each	25

SOUND/MUSIC

Item	Price
Deluxe Music Construction	$ 65
Dr. T Copyist Level 1	69
Dr. T Copyist II*	219
Dr. T KCS v16a	165
Dr. T KCS Level 2	279
Dr. T MT32 Voices	39
Dr. T Midi Recording Studio	49
Dynamic Drums	52
Dynamic Studio v2.4	135
Future Sound Sampler	139
M Intelligent Music	139
Midi Magic	99
Music-X	195
Perfect Sound A1000	65
Perfect Sound A500	65
Pro Sound Designer	115
Sonix	52
Sound Oasis	65
Sound Sampler	85
Soundscape Pro Midi Studio	129
Studio Magic	65
Synthia	65
Texture	99

UTILITIES/LANGUAGES

Item	Price
A Talk III	$65
AC/BASIC v 1.3	135
Amiga Workbench 1.3	24
Amikit	34
Ami...Alignment	39
Amiga DOS Toolbox	42
Arrexx	35
Assempro	64
BAD Disk Optimizer	32
BBS PC	99
Benchmark Modula 2	129
Benchmark Modula 2-Libraries	69
Butcher 2.0	25
Can Do	105
C.A.P.E. 68K v2.0	59
CLI Mate	27
DOS-2-DOS	39
DSM	49
Developer's Pak 2	69
Disk-2-Disk	35
Diskmaster	39
FACC II	25
GFA BASIC	99
GOMF V3 with Hardware Switch	49
Gomf v3.0	27
Grabbit	20
Inova Tools	52
Lattice C + +	339
Lattice C V 5.0 Developer Pack	205
Mac Emulator(AMAX)	135
Professional BASIC	119
Power Windows 2.5	59
Project D v1.1	35
Quarterback	45
Raw Copy v1.3	42
Super Back	59
True BASIC Libraries EACH	35
True Basic 2.0	69
UltraDOS	19
Virus Infection Protection	33
Virus Protection Toolbox	42
W Shell	35

Products marked with * were not released at time ad was prepared. Please call for firm price and availability.

HARDWARE

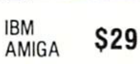
Item	Price
A Pro Draw 12x12w/cursor	$499
Case 2-5.25" HHw/pwr & Fan	79
Chinon A2000 Internal 3.5" floppy	99
Color Splitter	90
Easyl 500	329
FlexiData FD-10	149
FlexiData FD-20	259
DRAM	
1Mbx1 100ns	19
256 Kbx1 150ns	7
256 Kbx4 120ns	28
256 Kbx4 120ns ZIP	30
SCSI DRIVES	
40MB Quantum 3.5" 19/12 ms	589
80MB Quantum 3.5" 19/12ms	969
100MB Quantum 3.5"18/12ms	1099
32MBSeagatST138N3.5"40ms	345
48MBSeagatST157N13.5"28ms	380
62MBSeagatST227N5.25"40ms	515
84MBSeagatST296N5.25"28ms	615
40MBSyQuestRmvbl5.25"25ms	999
GENLOCKS	
Amigen	149
Gen/One	625
ProGen	369
Magni 4004	1389
MiniGen	call
ScanLock	895
SuperGen	669
SuperGen 2000s	call
MIDI/SOUND	
A.M.A.S.	135
Golden Hawk A2000 Int Midi	75
MONITORS	
MisubishiDiamonScan 14	529
Moniterm Viking 1	call
NEC 3D	695
PRINTERS	
AbatonQuickstepPstscrptLaser	3349
Canon PJ1080A Color Ink Jet	519
Canon Bubble Jet 360dpi/132col	799
Fujitsu LED Postscript	call
Laser Express	2199
HP PaintJet	call
Okimate 20	155
Panasonic 1124	359
Star NX-1000R Rainbow Color	259
Xerox 4020 Color Ink Jet	1139
VIDEO	
Flicker Fixer	479
Panasonic WV1410 Camera	189
Rainbow16mmLensw/variableiris	49
AMIGA	
1084s Stereo Monitor	call
2058 Memory Board w/2MB	call
Amiga 68010/68881w/2MB	call
Amiga 500	call
A501 Mmry Exp. A500w/clock	call
520 video adapter	call
Amiga 2000,2000HD, 2500	call
2088XT BridgeBoard	call
2286AT BridgeBoard	call
Kickstart 1.3 ROM chip	call
A SQUARED	
Live!1000	249
Live! 500	285
Live!2000	319
CACHE SYSTEMS	
Hard Drives	call
COMPUTER SYSTEM ASSOCIATES	
Midget Racer w/68020	349
MidgetRacerw/68020/88881-16	519
DIGITRONICS	
RD4 Ramcard A2000 (OK)	199
RC4 w/case,pwr,A500 adpt (OK)	280
GREAT VALLEY	
A2000 SQ44	call
A2000 68030/16 or 68030/25	call
A2000SCSIHrdDskCntrlr2MB(OK)	299
A2000 40MB SCSIHrdCrdQntm	799
A2000 80MB SCSIHrdCrdQntm	1159
A2000 100MBSCSIHrdCrdQntm	1495
A500 30MB SCSI HrdDrive	759
A500 40MBSCSI HrdDrv Q	1020
A500 80MBSCSI Hrd Drive	1429
INTERACTIVE VIDEO	
Trumpcard	159
2-8MB RamCard	call
Trumpcard A500	219
A2000 40MBSCSIHrdCrdQntm	799
A2000 80MBSCSIHrdCrdQntm	1158
MAST	
MicroMegs(A501sub)	159
MiniMegs 512K A500 or A1000	315
MiniMegs 1MB A500 or A1000	449
MiniMegs 2MB A500 or A1000	749
TnyTgr30MBA500/2000,A1000	829
TnyTgr40MBQnt500/2000,1000	799
TnyTgr48MB5000/2000,1000	769
TnyTgr Performance Plus	call
Amiga Tosh	199
Amiga Tosh Plus	call
A2000 Internal Drive	129
Twin Drive	259
UniDrive	149
MICROBOTICS	
HardFrame 2000	249
8 Up! DIP (OK)	185
Star Board II	269
Star Board II SCSI Module	99
Star Board II Upper Deck	49
MIMETICS	
Frame Buffer (OK)	489
Frame Capture	159
PACIFIC PERIPHERALS	
OverDrive	199
Synergy 500	219
Subsystem 500	249
PHOENIX	
Exp. Chassis A500	159
Exp. Chassis A1000	179
Exp. Chassis A500,A1000w/pwr	239
48MB Hrd Drive A1000	829
22MB Hrd Drive A1000	579
A500 Power Supply	85
PROGRESSIVE	
ProRamA2000 2MB (8MBmax)	639
Frame Grabber	529
RONIN	
68030	call
68020	call
SPIRIT	
SpritiInboardA500orA1000(OK)	229
SpiritA500SIN	269
SUPRA	
A2000Internal Modem	145
30MB A1000 Hard Drive	729
Hard Drives	call
PACKAGES	
8UP w/2MB	499
8UP w/4MB	789
8UP w/6MB	1059
8UP w/8MB	1299
HardFrame w/32MB	589
HardFrame w/48MB	610
HardFrame w/64MB	749
HardFrame w/82MB	779
HardFrame w/40MB Qntm	779
HardFrame w/80MB Qntm	1149
HardFrame w/100MB Qntm	1325
FastTrack w/case & 32MB	710
FastTrack w/case & 48MB	739
FastTrack w/case & 64MB	879
FastTrack w/case & 82MB	910
FastTrack w/case & 158MB	1499
FastTrack w/case & 40MBQNTM	899
FastTrack w/case & 80MBQntm	1279
FastTrack w/case &100MBQ	1449
FrameBuffer w/1MB	739
RC4 2000w/512K (4MBmax)	309
RC4 A500w/512K(4MBmax)	389
StarBoard II w/512K	359
StarBoard II w/1mb	449
StarBoard II w/2MB	669
SpiritInboardw/512K(1.5MBmax)	319
SpiritInboardw/1MB	410
SpiritInboardw/1.5MB	499
SpiritSIN500w/512KB(2MBmax)	379
Synergy500/Case/64MN	829
Synergy500/Case/158MB	1449
Trump or FastCardw/32MB	499
Trump or FastCard w/48MB	529
Trump or FastCard w/64MB	649
Trump or FastCard w/84MB	699
Trump or FastCard w/158MB	1329
Trump or FastCardw/40MBQntm	699
Trump orFastCardw/80MBQntm	1069
Trump,FastCardw/100MBQntm	1245
Trumpcard500 w/32MB	559
Trumpcard500 w/48MB (28MS)	589
Trumpcard500 w/40MB Qntm	759
Trumpcard500 w/80MB Qntm	1129
Trumpcard500 w/100MB Qntm	1299

Let us put a custom package deal together for you!
Please Call M-F, 9-5EST

Actual shipping costs on hardware.







IBM AMIGA **$29**



IBM AMIGA **$35**

TOTAL ECLIPSE

SPOTLIGHT

IBM AMIGA **$29**



SPOTLIGHT

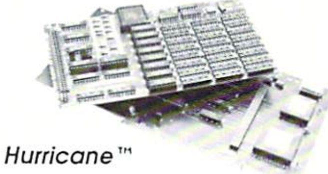
IBM AMIGA **$29**

PURCHASE ANY 3 OF THE ABOVE TITLES & WE WILL DEDUCT $6 FROM YOUR ORDER.

(Offer good until 9/30/89)



Research and Development, Inc.



Hurricane™

68030 28MHz
0 wait state w/65ns RAM (uses same memory board as -020) SCSI interface on board.

Item	Price
68030 28Hz 1-4 MB or 6-16 MB	call
68020	call
Memory Board	call
Chinon Scanner 300dpi	call



Fast Card $159
Fast Trak (0MB) 500 or 1000 $379

Amiga 1680 modem/1200RS

Hayes "AT" command set 1200 baud w/built-in speaker includes terminal software & cable Amiga 1000, 500 or 2000. **$69**

While supply lasts

BRiWALL

SOLID PRODUCTS & SOLID SUPPORT
PO Box 129/58 Noble Street
Kutztown, PA 19530

Toll-Free 24 Hour Order Line 1-800-638-5757

24-Hour Order Line Outside USA 1-215-683-5433

24-Hour FAX Line - 1-215-683-8567

Customer Service - 1-215-683-5433

Technical Support - 1-215-683-5699

PLEASE COME VISIT US!
Monday - Friday 9AM-6PM EST
Saturday 9AM - 12 Noon EST

VISA MasterCard

Circle 132 on Reader Service card.

Serious About C?

Check out this limited time special

MANX, DEVELOPER COMBINATION PACKAGE



Developer
Source Level Debugger
Source Level Libraries

$725 List
NOW ALL 3 FOR ONLY $329

Also Available

Item	Price
Aztec C Professional	$129
Aztec C Developer	$195
Aztec C Source Level Debugger	$79
Aztec C Library Source	$195

SHIPPING POLICY: All ORDERS received before 3PM EST will normally be shipped within 2 business days. Out of stock items will be shipped by the same shipping method as original order, normally within 3 or 4 business days. All UPS shipments are sent SIGNATURE REQUIRED/NO DRIVER RELEASE. ADD the following shipping charges to your TOTAL software order:

UPS: Ground $4.00 (cont USA ONLY); Air/Rush $7.00 (Includes Puerto Rico/Hawaii); Overnight $12.00 + $2.50 per item (must be received by 12 NOON).

PRIORITY MAIL: USA $4.00 (includes APO/FPO); Canada/Mexico $6.00; Other Foreign $4.00 Handling + Actual Shipping + Insurance.

ORDERING INSTRUCTIONS: For your convenience, you can place a phone order 24 HOURS/ 7 DAYS A WEEK on our TOLL—FREE LINE 1-800-638-5757. Outside the USA, please use (215) 683-5433. Price, availability and compatibility checks are also welcome on our order line, Monday thru Friday, 9:30AM-4:30PM EST. AFTER HOURS, Orders Only, Please! When placing an order, please specify your computer model, home & daytime phone number, shipping address, charge card number, expiration date & name of bank.

ACCEPTED PAYMENT METHODS: We welcome payment by PREPAID (by Personal Check or Money Order); MASTERCARD: VISA: SCHOOL PURCHASE ORDERS, COD orders are welcome for established Briwall Customers Only ($4.00 additional). All payments must be in USA DOLLARS. There is no Surcharge for Credit Cards and your card is NOT charged until we ship!

RETURN POLICY (for software and accessories ONLY): We have a liberal return policy to better service your needs. If within 15 days from the time you receive an item, you are not satisfied with it for any reason, you may return it to us for either a refund, exchange or open credit. REFUNDS ARE SUBJECT TO A 10% RESTOCKING FEE PER ITEM RETURNED ($5.00 MINIMUM PER ITEM). EXCHANGES/OPEN CREDITS will gladly be issued for the full purchase price of the item. DEFECTIVE Items, Hardware items and Special Order items will be replaced with the same item only.

TECHNICAL SUPPORT (M-F - 9:30AM-5PM EST) We do our very best to help you with your product selections, before you order and after you receive your product. General questions, price, compatibility with your computer, etc. will be handled by our order staff at the time you place your order. BUT, if you have specific, detailed questions about a product, printer, compatibility questions, etc., you will get the most help from our TECHNICAL SUPPORT LINE 215-683-5699.

WHAT'S NEW?

This month you can play god in hog heaven!

Compiled by Jan Jackson

Driving Hard

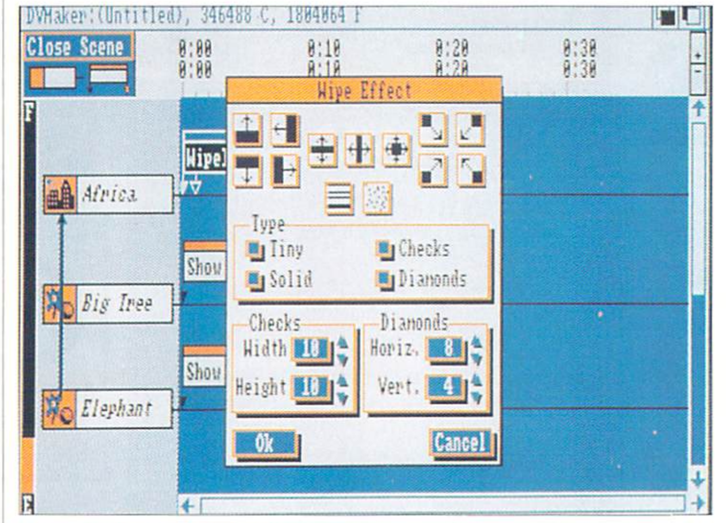
IMTRONICS WANTS TO put A500 and A2000 owners in the driver's seat. The company's new line of **autobooting hard disks** includes some models with memory options. For the budget minded, the HD500 (external unit with pass-through for the A500) and HD2000 (internal A2000 hard card) are available in 33 ($698) and 45 ($898) megabyte configurations complete with controller.

The HD 4000 is similar to the HD500: It comes in the same capacities ($898 and $998, respectively), but also provides sockets for two or four megabytes of RAM. Still not enough? Then add the optional HD 4000 RAM module ($149). This piggyback board fits inside the drive case, and accepts up to four more megabytes.

The HD 8000 is IMtronics' disk and memory solution for the A2000. It is identical to the HD2000 but lets you add two, four, six, or eight megabytes of RAM. It too is available in 33 ($898) and 45 ($998) megabyte capacities. Not to ignore A2000 owners who want just memory, IMtronics' line includes an 8MB RAM card for $249 (unpopulated). Contact IMtronics Inc., 12301 S.W. 132 Court, Miami, FL 33186. *Reader service number 525.*

Visualizing Hollywood

DELUXEVIDEO III, THE latest incarnation of Electronic Arts' professional desktop video program, sports an intuitive graphics interface that gives you more control for creating video presentations. You can integrate a full range of graphics, animation, and sound (DeluxeVideo III supports Amiga resolution modes, super bitmaps, high-speed animation, MIDI output, and IFF sound files) and then record your works on videotape or play them back through your Amiga. The program ($149.95) controls external devices such as MIDI equipment, genlocks, and single-frame VCRs. Upgrade prices for current owners and further details are available from Electronic Arts, 1820 Gateway Dr., San Mateo, CA 94404, 415/571-7171. *Reader service number 514.*



A view through Amiga's "lens."

In the Wind

KICK OVER YOUR hog and ride to a major rally in **Harley-Davidson: The Road to Sturgis** ($49.95). Experience biker lifestyle on the open road and compete with your bros in drag races, slow-ride contests, and hill climbs. Put on your boots and leathers and call Mindscape Inc., 3444 Dundee Rd., Northbrook, IL 60062, 312/480-7667. *Reader service number 521.*

On the Horizon

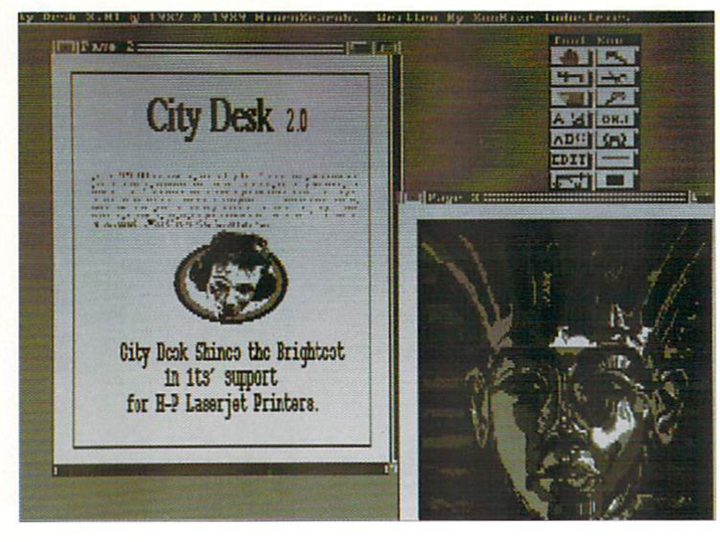
SUNRIZE INDUSTRIES' sights are set for scanning. A low-cost scanning alternative, **IMG Scan** ($149.95) works with any dot-matrix printer featuring adjustable verticle-line spacing and a print head that moves across the carriage. The hardware attaches to your printer, and the software summons both devices to scan pictures in 256 gray scales. Depending on the printer, you can get resolutions of 75 to 360 dpi. IMG Scan lets you save your digitized images as IFF and RAW files so you can use them in a multitude of applications. Cast a line toward SunRize Industries, 3801 Old College Rd., Bryan, TX 77801, 409/846-1311. *Reader service number 510.*

Now You See It

WITH **ANIMAGIC** ($99.95), you can play Hitchcock by creating digital video effects such as spins, page-turns, venetian-blinds, confettis, strobes, and titling. The program works with most paint and animation programs, and supports IFF and Anim file formats. Take five and call Aegis, 2115 Pico Blvd., Santa Monica, CA 90405, 213/392-9972. *Reader service number 516.* ►

The Daily Planet

IN DESKTOP PUBLISHING news, **City Desk 2.0** offers both new and modified features. For $199.95 you get text flow around irregular graphics, macro capabilities, autohyphenation routines, a full-screen, sizable text editor, an improved graphics editor with 16 shades of gray, and a laser utility to create metric files. Call MicroSearch Inc. for your assignment: 9896 SW Freeway, Houston, TX 77074, 713/988-2818. *Reader service number 513.*



City Desk 2.0 lets you view multiple pages simultaneously.

Take Note

MUSIC-X OWNERS, if you suffer from disruptive MIDI traffic jams, try **MIDI-X**. Designed for use with Music-X (both are from MicroIllusions), this interface box offers two switchable inputs and six outputs that you can switch on, disable, or designate as a thru port for passing data between external devices. An LED gauge lets you monitor these activities.

Your system can produce synchronized graphics, sound and MIDI events with **TCRG-102** ($799), a time-code reader and generator. This hardware-and-software combination features a flexible reader/generator that works with SMPTE or EBU longitudinal time code in 24, 25, 30 and DF modes, window dubbing, an on-screen control panel, and a continuity tester. You can hear the details of both MIDI-X and TCRG-102 from MicroIllusions, PO Box 3475, Granada Hills, CA 91394, 800/522-2041 or 818/360-3715 (in California). *Reader service number 515.*

Move Over, Pancho Villa!

LOCATE AND APPREHEND a gang of thieves targeting the world's priceless treasures and landmarks in **Where in the World is Carmen Sandiego?** The educational game ($44.95) includes a World Almanac to help you decipher clues gathered at the scene of the crime. Your first tip: call Broderbund Software Inc., 17 Paul Dr., San Rafael, CA 94903-2101, 415/492-3500. *Reader service number 508.*

Part the Clouds

OMNISCIENCE IS NOT required, but surely helpful when you play **Populous** and assume the role of a god. You begin by laying claim to either the good or evil nation. As your inhabitants proliferate, your divine powers increase. Play against a friend (via modem if you like) or the computer; the surviving country (and corresponding deity) wins. Electronic Arts has your seat of power: 1820 Gateway Dr., San Mateo, CA 94404-2497, 415/571-7171. *Reader service number 519.*

Take Shape

TAKE YOUR TWO-dimensional graphics to another plane with **DigiWorks 3D**. The program ($129.95) lets you convert flat images into three-dimensional objects for use with your 3-D rendering and animation programs. DigiWorks 3D can directly output to Sculpt-Animate (Byte by Byte) and Turbo Silver (Impulse) file formats. To acquire depth, call Access Technologies Inc., PO Box 202197, Austin, TX 78720, 512/343-9564. *Reader service number 504.*

Roll Up Your Shirtsleeves

BROWN-WAGH Publishing's latest additions promise a lighter work load: If you are in the market for a paint program but must adhere to budgetary constraints, try **Spritz** ($79.95), a graphics starter kit from Glacier Technologies. The program features six-range color cycling, multiple active brushes, color changing for brushes, double-arc curves and loops, ColorFont support, and 64-color Extra_HalfBrite mode.

The **Madrigal Architectural Libraries** will help you design a house from foundation plans to furniture arrangement. Each library of clip-art pieces (Floor Plan, Interior Design, or Framing and Foundation Details) is available in IFF ($59.95 each) and CAD ($89.95 each) formats.

Let SoftWood Company introduce you to **Pen Pal** ($149.95), a word processor with a built-in database that allows you to combine multiple IFF graphics with near-letter-quality printer fonts on every page. For any of these programs, call Brown-Wagh Publishing, 16795 Lark Ave., Suite 210, Los Gatos, CA 95030, 408/395-3838. *Reader service number 502.*

Peripheral Prowess

ADDRESS YOUR ADD-on problems with **The Serial Solution**. For $299, this board can triple your A2000's serial support. You get both an Amiga-compatible 25-pin, 12-volt port and an AT-compatible 9-pin serial port. The board comes with a program that lets you use Amiga software with either port. Checkpoint Technologies is your port in the storm: PO Box 2035, Manassas, VA 22110, 703/330-5353. *Reader service number 503.* ■

M.C.S. WE DON'T CLAIM TO HAVE THE LOWEST PRICES ON AMIGA . . .



THINK YOU FOUND A GOOD DEAL? OURS WILL BE BETTER!

3.5 DS/DD LIFETIME WARRANTY 69¢ $25 Purchase Required

SUPRA 2400i

FROM $98

- Supra 2400 . . . 119*
- Avatex 1200E . . . 68*
- Avatex 1200 HC . . . 89*
- Avatex 2400 . . . 138*

W/Cable Purchase-Add $10 Alone

512K RAM

A 500

from $129

- Minimegs . . . New Low Price

CLEARANCE

AMIGA 500's
AMIGA 2000's

20 MG H.D. $249

SEAGATE

W/Controller

- 30 MG . . . 299
- 40 MG . . . 349
- 65 MG . . . 399
- 80 MG . . . 499
- 40 MG Quantum . . . 559

2 MG RAM

FROM $299

- 8-Up Board . . . Call
- Starboard 2 OK . . . 235
- Inboard 2.0 MG OK . . . 235
- Megaboard 2000 (1mg) . . . 375
- Megaboard 2000 (2mg) . . . 449
- Pro Ram 2000 . . . 499

MISC.

- Gen One . . . 499
- RCA Cameras . . . from 99
- Panasonic 1410 . . . 185
- Super Gen . . . 670
- CSA Midget racer . . . Call
- Sony 3.5 DS/DD . . . 15(10)
- Subsystem500/1000 . . . 200
- Hardframe . . . 238
- Digiview 3.0 . . . 128
- Digidroid . . . 62
- Copystand . . . 55
- Mini Gen . . . Call
- Amigen . . . 149
- Amiga Genlock1300 . . . 120
- Frame Grabber . . . 520
- Gold Disk Scanner . . . Call
- My-T Mouse . . . 42
- VI500 Video Interface . . . 59
- Easyl 500/1000/2000 . . . from299
- Flicker Fixer . . . 410
- Perfect Vision . . . 168
- Elec.ColorSpltr . . . 94
- Live 500/1000/2000 . . . Call
- Removable Storage . . . Call

3.5 EXTERNAL DRIVES

FROM $125

- 3.5 Internal . . . 98
- Flex Data 3.5 ext . . . 138
- 3.5 Dual Drive . . . 245
- Master 3A . . . 135
- Uni Drive . . . 135
- Amiga 1020 Drive . . . Call

STAR $219 RAINBOW

- NX1000 . . . 170*
- Okimate 20 . . . 190*
- Panasonic1180 . . . 179*
- Panasonic 1124 . . . 319*
- Panasonic Laser . . . 1399

*W/2 ribbon purch.-Add $10 alone

SUPRA 20MG HD

COMPLETE $499

- Phoenix • C Ltd
- Vault • Xetec
- Many More! Call!

PRICED TO MOVE

G.V.P.

PRODUCTS

WE SELL THEM FOR LESS

- Subsystem 500
- 1MG/2MG Boards
- Hard Cards
- 68030 Accelerator

ABACUS
Amiga Dos Tool Box . . . $36
Assempro . . . $60
Becker Text . . . $90
Data Retrieve . . . $48
Text Pro . . . $48
Disk Drives Inside/Out . . . $27
Amiga Tricks & Tips . . . $18
Amiga C Adv . . . $33
Amiga Dos Inside/Out . . . $18
Amiga Machine Lang . . . $18
Amiga C for Beginners . . . $15
Amiga Sys prog. Guide . . . $33
Amiga Basic Inside/Out . . . $23
Amiga for Beginners . . . $15
Amiga 3D Graphics . . . $18
More Tricks & Tips . . . $18
ABSOFT
AC/Basic 1.3 . . . $117
AC/Fortran . . . $180
ACCESS
Leader Board Dual Pk . . . $21
World Cls Ldr Board . . . $27
ACTIONWARE
Super Cars . . . $12
Heavy Metal . . . $27
Prison . . . $24
Capone . . . $24
Phaser Gun . . . $46
P.O.W. . . . $24
ACCOLADE
California Challenge . . . $12
Bubble Ghost . . . $21
Famous Courses Vol 2 . . . $12
4th and Inches . . . $27
Hard Ball . . . $27
★ Jack Nicholas Golf . . . $30
Mean 18 . . . $27
Team Construction disk . . . $9
★ Test Drive II . . . $27
ACTIVISION
Battle Hawks 1942 . . . $30
ADDISON-WESLEY
Includes & Auto Docs . . . Call
AEGIS
Bonus Pack . . . $60
AniMagic . . . $60
Audiomaster 2.0 . . . $60
Draw 2000 . . . $168
Lights Camera Action . . . $48
Modeler 3D . . . $60
Sonix . . . $48
Videoscape 3D 2.0 . . . $120
Video Titler . . . $90
AMIGA
★ 1.3 Enhancer . . . $20
ANTIC
Turbo Silver Dsgn Dsk . . . $Call
Design Disks . . . $21
Pioneer Plaque . . . $24
★ Phasar 3.0 . . . $60
★ Zoetrope . . . $84
AROCK COMPUTER SOFTWARE
Masterpiece Pro Fonts . . . $150
ARTWORX
Bridge 5.0 . . . $21
Centerfold Squares . . . $18
Linkword Languages . . . $18
★ Strip Poker 2 . . . $24
Strip Pkr Data 4 or 5 . . . $12
ASDG
FACC II . . . $21
Cygnus Ed . . . $60
AVANTE GARDE
Benchmark Module 2 . . . $120
BAUDVILLE
Award Maker Plus . . . $30
Sports Library . . . $18
BETHESDA
★ Wayne Gretzky Hockey . . . $30
BRITANNICA
Designasaurus . . . $30
BRODERBUND
Ultima Trilogy . . . $36
Carmen SanDiego World . . . $27
★ Sim City . . . $27
Downhill Challange . . . $18
Fantavision . . . $36
Star Wars . . . $24
BROWN WAGH
Easyledger . . . $180
★ Express Paint 3.0 . . . $84
TV Show . . . $60
TV Text . . . $60
Word Plex . . . $24
★ Pen Pal . . . $90
Midi Magic . . . $90
BUENA VISTA
Roger Rabbit . . . $27
BYTE BY BYTE
Sculpt/Animate 4D Jr . . . $90
Animate 3-D . . . $95
Sculpt 3-D . . . $65
CENTAUR SOFTWARE
Forms In Flight II . . . $72
B.A.D. . . . $30
CENTRAL COAST
DISK to DISK . . . $30
★ DOS 2 DOS . . . $33
★ Quarterback . . . $42
CINEMAWARE
★ Kristal . . . $30
Federation . . . $30
King of Chicago . . . $15
★ Lords of Rising Sun . . . $30
Rocket Ranger . . . $30
S.D.I. . . . $15
Sinbad . . . $15
3 Stooges . . . $30
Defender of the Crown . . . $30
T.V. Sports Football . . . $30
DATA EAST
Batman . . . $27
Robocop . . . $27
DIGITEK
Extra Courses . . . $12
★ Hole 1 Mini Golf . . . $24
Vampires Empire . . . $27
Hollywood Poker . . . $Call
DISCOVERY
Arkanoid . . . $20
Arkanoid II . . . $Call
Grabbit . . . $18
Hybris . . . $24
★ Sword of Sodan . . . $30
V.I.P. . . . $30
Zoom . . . $18
DISK CO.
Publishers Choice . . . $120
Superback . . . $48
Kind Words 2.0 . . . $60
DR. T MUSIC SOFTWARE
★ KCS Level II . . . $210
Copyist Pro. 2 . . . $168
★ K.C.S. . . . $150
Midi Recording Studio . . . $42
EASEWARE
Home Builders Cad . . . $120
Home Builders Ch . . . $49
ELAN DESIGN
Invision Req. Live . . . $135
Performer . . . $36
ELECTRONIC ARTS
★ Demons Winter . . . $26
★ Populous . . . $32
MI BPA Stats . . . $14
Lancelot . . . $20
Time and Magic . . . $26
AAARGH . . . $23
Alternate Rlty(city) . . . $26
Awesome Arcade Pk . . . $32
Bard's Tale . . . $32
ChessMaster 2000 . . . $29
★ Commissioners Disk . . . $14
Deluxe Music . . . $62
★ Deluxe Paint III . . . $92
Deluxe Photo Lab . . . $92
Deluxe Productions . . . $122
Deluxe Video 1 2 . . . $80
Double Dragon . . . $26
★ Earl Weaver . . . $32
FA/18 Intercepter . . . $32
Ferrari Formula 1 . . . $32
Marble Madness . . . $32
Master Ninja . . . $20
★ Mavis Beacon . . . $32
Wizard Wars . . . $26
Zany Golf . . . $26
EMERALD INTELLIGENCE
Mageltan . . . $117
EPYX
Project Neptunef . . . $24
California Games . . . $30
Battleship . . . $24
Dive Bomber . . . $24
Games Winter Edition . . . $30
Impossible Mission 2 . . . $15
Technocop . . . $30
4x4 Road Racing . . . $15
FIRST BYTE
★ First Letters & Words . . . $26
First Shapes . . . $26
Kid Talk . . . $32
Math Talk . . . $32
Math Talk Fractions . . . $26
Smoothtalker . . . $26
Speller Bee . . . $26
FREE SPIRIT
Securities Analyst . . . $48
Sex Vixons from Space . . . $24
FTL
★ Dungeon Master . . . $24
FULLER COMPUTER
★ Project D . . . $30
GOLD DISK
Comic Setter Data Disks . . . $21
Pro Page 1.2 . . . $210
Structured Clip Art . . . $Call
Transcript . . . $42
Pro Page Templates . . . $36
Pro Draw Clip Art . . . $36
Desk Top Budget . . . $42
Design 3D . . . $60
★ Comic Setter . . . $60
★ Movie Setter . . . $60
Page Setter . . . $90
Prof Draw . . . $120
HARDWIRED
Denaris . . . $24
Jinks . . . $18
HASH
Animator Apren 3.2 . . . $177
Animator Jr. . . . $48
Many More . . . Call
HYPTERTEC
GOMI 3.0 . . . $24
GOMI Button . . . $53
IMPLUSE
Turbo Silver . . . $120
INCOGNITO
Kingdoms of Englan . . . $27
INFOCOM
Journey . . . $30
Shogun . . . $36
Zork Zero . . . $36
Battletech . . . $30
INNOVISION
Broadcast Titler . . . $180
Video Effects 3D . . . $120
INTERPLAY
★ Battle Chess . . . $30
Neuromancer . . . $24
JDK IMAGES
★ Pro Video Gold . . . $180
Font Libraries . . . $78
KARA
Subheads . . . $42
★ Headlines 2 . . . $42
Kara Fonts . . . $48
LATTICE
★ Lattice 5.0 . . . $180
MANX
Aztec C Developers . . . $195
Aztec C Pro . . . $130
Library Sources . . . $180
Source Level Debugger . . . $75
MELBOURNE HOUSE
World Trophy Soccer . . . $Call
★ War in Middle Earth . . . $30
Magic Johnson B-ball . . . $30
MICRO DEAL
Amas . . . $Special
Hit Disk . . . $30
Fright Night . . . $24
Airball . . . $24
4 Player Adapt . . . $Call
Major Motion . . . $24
International Soccer . . . $24
MICROILLUSIONS
Black Jack Academy . . . $24
Craps Academy . . . $24
Data Disks . . . $12
Discovery Math or Spell . . . $24
Faery Tale . . . $30
Photo Vid Cel Animator . . . $90
Music X . . . $180
★ Photon Paint II . . . $90
MICROMASTER
★ Your Family Tree . . . $30
MICROPROSE
★ Gunship . . . $36
Silent Service . . . $24
MICROSEARCH
City Desk 2.0 . . . $120
Head Coach 2.0 . . . $30
MIMETICS
3 Demon . . . $68
Pro Midi Studio 1.4 . . . $125
Utilities 1 or 2 . . . $34
Midi Interface . . . $48
Sound Sampler . . . $80
MINDSCAPE
Speedball . . . $24
Total Eclipse . . . $24
Thunderblade . . . $30
Action Fighter . . . $24
Indiana Jones . . . $24
Balance/Power 1990 . . . $30
Captain Blood . . . $30
Combat Course . . . $24
Hostage . . . 27
Indoor Sports . . . $30
Outrun . . . $30
Shadowgate . . . $30
Space Harrier . . . $30
Superstar Ice Hockey . . . $30
Uninvited . . . $30
Alien Syndrome . . . $24
RoadRaider . . . $30
Deja Vu II . . . $30
MINDWARE
Aunt-Artic Adventure . . . $24
Page Flipper . . . $30
Pg Flipper Plus F/X . . . $96
PAGErender 3D . . . $96
MSI
★ Raw Copy . . . $36
M.S.S.
Online! Platinum . . . $60
Excellence . . . $150
Scribble Platinum Ed. . . . $90
Works Platinum Ed. . . . $177
NEW HORIZONS
Flow . . . $60
Postscript . . . $30
Pro Fonts 1 or 2 . . . $21
Pro Write 2.0 . . . $75
NEWTEK
Digi Paint III . . . $60
A500 Adapter . . . $20
Digidroid . . . $62
Digiview 3.0 . . . $128
Digiview 3.0 Upgrade . . . $12
★ Digiview Gold . . . $128
NEW WAVE SOFTWARE
Dynamic Drums . . . $48
Dynamic Studio . . . $120
Sound Oasis . . . $60
OMNITREND
Breach . . . $24
Paledin . . . $24
Scenerio Disks . . . $15
ORIGIN SYSTEMS
Ultima IV . . . $36
OXXI
A-talk 3 . . . $60
Maxiplan 500 . . . $90
Maxiplan Plus . . . $120
PRECISION SOFTWARE
SuperBase Personal . . . $48
SuperBase Personal II . . . $90
SuperBase Pro. 3.0 . . . $210
Super Plan . . . $90
Pro Sound Designer . . . $96
PROGRESSIVE
CLI-mate . . . $24
Disk Master . . . $30
IntroCad . . . $48
Mathamation . . . $48
Pixmate . . . $42
PSYGNOSIS
★ Blood Money . . . $24
Baal . . . $18
Ballistix . . . $21
Barbarian . . . $24
Captain Fizz . . . $18
Chrono-Quest . . . $30
Menace . . . $18
Obliterator . . . $24
Terror Pods . . . $24
RAINBIRD
Carrier Command . . . $27
★ Starglider 2 . . . $27
Universal Milit Simu . . . $30
UMS Vietnam . . . $15
UMS Civil War . . . $15
READY SOFT
A-Max . . . $120
Dragon's Lair . . . $36
RGB
Deluxe Help . . . from $21
RIGHT ANSWERS GROUP
★ Director . . . $42
Director Tool Kit . . . $24
SEDONA SOFTWARE
Money Mentor . . . $39
SIERRA
Police Quest . . . $30
Gold Rush . . . $24
Manhunter . . . $30
Silpheed . . . $21
Leisure Suit Larry II . . . $30
SOFTLOGIC
★ Page Stream . . . $120
Page Stream Fonts . . . $24
SOFTWARE VISIONS
Business Designer . . . $36
Home Designer . . . $24
★ MicroFiche Filer Plus . . . $108
SPECTRUM HOLOBITE
Solitaire Royal . . . $21
★ Falcon . . . $30
Tetris . . . $21
SSI
Gettysburg . . . $38
★ Heroes of the Lance . . . $26
Kampfgruffe . . . $38
Questron 2 . . . $32
Wrath of Nicodemus . . . $26
SUBLOGIC
Flight Simulator II . . . $32
Jet . . . $32
Scenery Disks . . . from $18
SUNRIZE INDUSTIES
Elctr Color Splitter . . . $94
Perfect Vision . . . $170
TAITO
Rampage . . . $24
Bubble Bobble . . . $21
★ Operation Wolf . . . $21
Renegade . . . $21
THREE SIXTY INC.
Dark Castle . . . $27
Thunder Ridge . . . $24
TRUE BASIC
True Basic . . . $60
9 Libraries (each) . . . $30
UNICORN
All About America . . . $36
All other titles . . . $30
UNISON WORLD
Art Glry 1 & 2 Combo . . . $24
Art Gallery 1&2 ea. . . . $18
Fantasy . . . $18
Fonts & Borders . . . $21
★ Printmaster Plus . . . $30
VISIONARY DESIGN
Datastorm . . . $24
WILLIAM HAWES
★ Arexx . . . $30
W-Shell . . . $30
WORD PERFECT INC.
Library . . . $78
Word Perfect . . . $150

Orders Only: M-F 10-8 Sat 10-6

800-433-7756

In Michigan:

313-427-7713

Customer Service: 12-5PM EST(M-F)

313-427-0267

FAX **313-427-7766**

★ Indicates Top 50 Sellers

No Surcharge for MC/VISA/DISCOVER

M.C.S.

Send Mail Orders To: **MCS.** 12868 Farmington Rd., Livonia, MI 48150

Sorry no walk in traffic

All returns must have RA #. Merchandise found defective will be repaired or replaced. We do not offer refunds for defective products or for products that do not perform satisfactorily. We make no guarantees for product performance. Any money back guarantee must be handled directly with the manufacturer. Call for shipping & handling info. Prices subject to change without notice. Shipping & Handling are not refundable.

NO REFUNDS

Returned products subject to a 20% restocking fee:
12864 FARMINGTON ROAD, LIVONIA, MI 48150
We cannot guarantee compatibility

DEALER INQUIRIES INVITED

Circle 44 on Reader Service card.

HELP KEY

Give Lou your tired, your poor, your muddled programs yearning to be error free.

By Louis R. Wallace

GETTING AT THE SHELL

Q: *How does one call up the Shell from the CLI? I tried using SHELL, RUN SHELL, and RUNBACK SHELL, but none of these worked. From Workbench, clicking on the Shell icon works fine.*

R.G. Radys
Santa Monica, CA

A: It's easy. Just type NEWSHELL (1.3 only) and the Shell window will appear. To get rid of it, just type ENDSHELL. With the Shell CLI window, you have a lot of features the old CLI lacked, with command history and memory-resident commands being some of the most useful. But for these commands to work, make sure your startup-sequence has a line that mounts the NewCon device, like this:

MOUNT NewCon:

Without this, the Shell will work in much the same manner as the older CLI, but many of the new features will be lacking.

NINE PLUS

Q: *I already know that the Amiga 2000 and 500 can have a maximum of nine megabytes of RAM, and the A1000 can have 8.5 megabytes. With the new 68020 and 68030 accelerator boards becoming more and more available, is it yet possible to exceed those memory limits? This would be very important to me, as I am working with large ray-traced animations, and currently must divide my animations into smaller segments, videotape them, and then piece them together. I could really use more RAM.*

E. Harvey
Tampa, FL

A: Anyone who has ever tried to create a large ray-traced animation can well appreciate the need for more RAM. During the recent San Francisco Amiga Developers Conference, one of Commodore's Amiga engineers who is developing the CBM 68030 accelerator card (the A2630) mentioned the possibility of more than nine megabytes of RAM on that board. However, at this writing the A2630 hasn't yet been released, so I can't be sure if it will allow more than nine megs when it is available. My best guess is that one or more Amiga 68030 products will be out within a year that will support more than nine megabytes of RAM.

FAT AGNUS

Q: *I keep hearing about a Fat Agnus chip for the Amiga, but I am not sure what it is or where I can get it. Have you heard of it?*

L. Wilmut
Salt Lake City, UT

A: The chip you have heard of is properly referred to as the "one-meg Agnus" chip, and with it installed in an A500 or A2000, your Amiga will have access to one meg of Chip RAM (used for graphics and sound) instead of 512K, assuming you have at least one megabyte of RAM in the computer. This extra chip memory will help you run more and bigger graphic and sound applications, which often cause the Amiga to run out of valuable Chip RAM even if other RAM is available. The one-meg Agnus chip is part of the upcoming Enhanced Chip Set (which also includes a new Denise chip) that is due to be released with the new 1.4 operating system. The combination of 1.4 and the ECS promises to be a wonderful upgrade to the Amiga, and you can be sure that *AmigaWorld* will be covering it in detail when it is released.

GONE DRY

Q: *Help! I have the Canon PJ 1080A Color Inkjet printer, but I recently ran out of ink. I can't find replacement ink cartridges anywhere. Am I going to have to get a new printer because I am out of ink?*

F. Esteban
Los Angeles, CA

A: You just got lucky, because I also own a PJ 1080A and had the same problem. I found out that Radio Shack's discontinued CPG-220 Color Inkjet printer uses the same ink cartridges as the PJ 1080A, and they can be purchased at almost any Radio Shack store that carries computer supplies. The part numbers are 26-1282 for the color cartridge, and 26-1281 for the black-ink cartridge.

TWO FOR ONE

Q: *I like the icon editor, but it doesn't allow me the option of a second image appearing when the icon is selected. Is there any such editor available, and if not how are they created?*

A. Asencio
Mayaguez, Puerto Rico

A: There are several good icon editors available in the public domain, some of which allow you to create an alternate image. You can find them on telecommunications networks such as PeopleLink, GENIE and CompuServe, as well as local BBSs. There is also probably one or more available in the vast Amiga PD software collections such as the Fred Fish collection. And, one of the best is on the first issue of *AmigaWorld*'s disk-based Tool Chest. It's called Icon Meister Version 1.6, and besides having several different drawing tools, it supports multiple icon images, interlace, and up to eight colors. ■

ESTABLISHED 1968

MONTGOMERY GRANT

AMIGA WORLD 9/89

OUTSIDE USA CALL
(718)692-0790
FOR CUSTOMER SERVICE
Call: Mon-Fri,9:30AM-4:30PM
(718)692-1148

Retail Outlet, Penn Station, Main Concourse
(Beneath Madison Square Garden) NYC, N.Y., 10001
Store Hours: Mon-Thurs,8:30-8/Fri, 8:30-6:00/Sat,CLOSED/Sun,9:30AM-7PM

FOR ORDERS & INFORMATION CALL TOLL FREE
1-800-759-6565

OR WRITE TO:
Montgomery Grant
Mail Order Dept.
P.O. Box 58 Brooklyn, NY, 11230
FAX NO. 7186923372
TELEX 422132 MGRANT

ORDER HOURS: Monday-Friday, 9:00am-7:00pm / Saturday - CLOSED / Sunday, 9:30am-6pm
NO SURCHARGE FOR CREDIT CARD ORDERS / WE INVITE CORPORATE AND EDUCATIONAL CUSTOMERS
CORPORATE LEASING & PERSONAL FINANCING AVAILABLE/RUSH SERVICE AVAILABLE/TOLL-FREE TECHNICAL SUPPORT

COMMODORE

AMIGA 500
Amiga 500 w/512K RAM
Built-in 3.5" Disk Drive
Mouse
$529
AMIGA 500 W/1084S & 1010 DISK DRIVE
$949



COMMODORE

AMIGA 500
Amiga 500 w/512K RAM
Built-in 3.5" Disk Drive
Mouse
COMPLETE WITH:
1084S RGB COLOR MONITOR
$799

COMMODORE
AMIGA 2000
Keyboard
1MB Expandable to 9MB
Built-in 3.5" Disk Drive
$1429



COMMODORE
AMIGA 2000
Keyboard
1MB Expandable to 9MB
Built-in 3.5" Disk Drive
COMPLETE WITH:
1084S RGB COLOR MONITOR
$1699


AMIGA 500
RGB COLOR PACKAGE
Amiga 500 w/512K RAM
Built-in 3.5" Disk Drive
RGB Color Monitor
Mouse
FREE Software
$729


AMIGA 2500
3MB RAM, Built-in 3.5" Disk Drive, 40MB Hard Drive, Keyboard, Mouse, Amiga Basic, System Software
$3199

AMIGA 2000
RGB COLOR PACKAGE
A-2000 Computer w/Keyboard
3.5" Disk Drive
RGB Color Monitor
FREE Mouse & Software
$1559

AMIGA
AMIGA 2000 HD
1MB Ram, Built-in 3.5" Disk Drive, 40MB Hard Drive, Keyboard, Mouse, System Software, Amiga Basic
$1999

-CUSTOMER BEWARE- Many of our competitors, unable to match our discount prices, quality,service & support, are telling our customers that we sell used or refurbished merchandise. They are also saying that our products do not come with a COMMODORE AMIGA U.S.A. Warranty. *DONT BE FOOLED!* MONTGOMERY GRANT sells only brand new, factory fresh merchandise complete with a Commodore USA warranty that can be serviced coast-to-coast thru hundreds of authorized Commodore Amiga service centers. Buy with confidence from an established dealer like ourselves with over 21 years experience.

AMIGA HARD DRIVES FOR AMIGA 500

XETEC FASTTRAK JR(20MB). $579
XETEC FASTTRAK Q.40(42MB) $869
XETEC Q 80, M150..IN STOCK
TRUMPCARD 500 external chassis-enables any SCSI Hard Drive to operate with AMIGA 500

TRUMPCARD 500 & SEAGATE Hard Drive PACKAGES for Amiga 500:

ST-138N(30MB)	$519
ST-157N(49MB)	$559
ST-177N(60MB)	$749

Same PKG. as above with XETEC Fast Trak external chassis (can be expanded to 8MB RAM) add $149

Seagate xetec
3.5" & 5.25" HARD DRIVES FOR AMIGA 2000
THESE SEAGATE HARD DRIVE PACKAGES INCLUDE XETEC FC20 HARD DRIVE CONTROLLER CARDS

ST-125N(20MB)	$439	ST-225N(20MB)	$439
ST-138N(30MB)	$449	ST-251N(40MB)	$499
ST-157N(40MB)	$499	ST-277N(60MB)	$569
ST-177N(60MB)	$699	ST-296N(80MB)	$659

AMIGA *PERIPHERALS*

A-1010 DISK DRIVE	$159	A-2300 GENLOCK	$269
A-501 EXPANSION MODULE	$149	A-2088-D BRIDGE BOARD	$469
A-1084S RGB	$279	NEW A-2286D AT BRIDGE BOARD	$1079
		A-1680 MODEM	$99.95

ALL OTHER AMIGA PERIPHERALS & ACCESSORIES IN STOCK!

FLICKER FIXER	$439
GEN ONE	$499
SUPRA 2400 ZI Internal Modem	$129
A-MAX MAC Emulator for Amiga	$119.95
GO-64/64 Emulator for Amiga	$49.95
Great Valley Products	CALL
AMIGEN	$144.95
SOUNDSCAPE Complete Midi Music System	$249.95

commodore
C= 64C COMPUTER $119
C-64/C DELUXE PACKAGE
- COMMODORE C-64/C COMPUTER
- COMMODORE 1541-C DISK DRIVE
- COMMODORE COLOR PRINTER
- 12" MONITOR
- GEOS SOFTWARE PROGRAM

$319

SAME PKG w/COLOR MONITOR ***$429***
C-1541 II DISK DRIVE SPECIAL!! ***$159.95***

commodore
C= 128 D COMPUTER $409
C-128/D DELUXE PACKAGE
- C/128D COMPUTER W/BUILT-IN DISK DRIVE
- COMMODORE COLOR PRINTER
- 12" MONITOR

$469

SAME PKG. w/1902 RGB Color Monitor *$629*
C-1571 Disc Drive .... *CALL*
C-1750 Expansion Module .... *CALL*

commodore *COLT*
IBM XT COMPATIBLE PKG.
640K · 4.77-7.16 MHz. · Two 360K Floppy Drives · 12" Mono Monitor · MS DOS & GW Basic
$659
SAME PKG. w/One Floppy and One Seagate 20MB Hard Drive *$859*
COLT w/1084S Monitor *$889*

PRINTERS

PANASONIC

KXP-1180	$177.95
KXP-1191	$229.95
KXP-1092i	$289.95
KXP-3131	$294.95
KXP-1124	$319.95
KXP 1595	$409.95
KXP 1524	$519.95
KXP-4450 LASER	$1349.95

OKIDATA

OKIMATE 20	$139.95
OKIDATA 180+	$219.95
OKIDATA 183	$249.95
OKIDATA 320	$329.95
OKIDATA 390	$454.95
OKIDATA 321	$459.95
OKIDATA 391	$629.95

STAR

NX-1000	$164.95
NX-1000 RAINBOW	$214.95
NX-1000C	$164.95
NX-1000C RAINBOW	$224.95
NX-2400	$294.95

TOSHIBA 301 .... *$329.95*
TOSHIBA 311 .... *$369.95*

HEWLETT PACKARD
LASERJET SERIES II **$1629**

HP PAINTJET	$1029.95
1 MB EXPANDER	$299
2MB EXPANDER	$499
HP DESKJET PRINTER	$589
HP LASERJET IID	$2829
DESKJET+	$689

SANYO PR-3000 DAISY WHEEL PRINTER $59.95

EPSON

LX-810	$179.95
LQ-500	$277.95
FX-850	$334.95
LQ-510	$329.95
FX-1050	$429.95
LQ-850	$519.95
LQ-950	$569.95
LQ-1050	$719.95
LQ-2550	$899.95

CITIZEN

120D	$134.95
180D	$149.95

TRIBUTE

124	$359.95
COLOR OPTION KIT FOR T-124	$49.95

NEC

P2200	$319.95
P5200	$499.95
P5300	$649.95









Certified Check, Bank Check, Money Orders, Approved P.O.'s, Visa, Mastercard, Diners ClubAm-Ex, Cart Blanche & C.O.D.'s accepted. Please call before submitting P.O.'s. No additional surcharge for credit card orders. Non-certified checks must wait 4-6 weeks for clearance. N.Y. residents add applicable sales tax. Prices and availability subject to change without notice. Not responsible for typographical errors. Return of defective merchandise must have prior return authorization number, or or returns will not be accepted. IBM XT/AT are registered trademarks of International Business Machines Corp. Please add 5% shipping & handling (min $6) Volume orders over $2000 are discounted to 3% shipping & handling. APO/FPO orders please add 10% shipping & handling. All APO FPO orders are shipped first class priority air. All orders can be shipped Air Express-call for details. D.C.A. #800233

InfoMarket

T-SHIRT & S-SHIRT IMPRINTS

in full color—from your IFF or HAM files!

T-SHIRTS $20 SWEAT SHIRTS $25

Available in white only. Specify S-M-L-XL, add $5 S/H.

To order call: (312) 321-8253

TAKE 1 VIDEO PRODUCTIONS, INC.

537 S. Cuyler Ave.
Oak Park, IL 60304

MicroEd

Educational Software K thru ADULT

ALL CURRICULAR AREAS•INCLUDES RELIGIOUS PROGRAMS
SEND FOR A LIST OF OUR SOFTWARE

MicroEd, Incorporated
P.O. Box 24750
Edina, MN 55424
612-929-2242

VIDI-MICE

Software allows you to control virtually ANY VIDEO, MUSIC, or PAINT program from your video camera input.

- **Transform real-time image into mouse and button events**
- **Fully programmable with instant recall and edit**
- **Multitask on any Amiga™, LIVE!™ frame grabber required**

Please send your check or money order of $85.00 to (California residents please add 6% sales tax)

Tensor Productions
280 Mathilda Drive #9
Goleta, CA 93117

MIDI-Mice (MIDI interface) also available for $85.00

AMIGA SALES & SERVICE

AMIGA™

A500 REPAIR $65.00

WE HONOR WARRANTY WORK. WE RESERVE THE RIGHT TO REFUSE WORK ON DAMAGED UNITS.

SALE PRICES	
Amiga 500	$569.00
A501 RAM Card	154.95
3.5" External Drive	139.95
Mouse for 500, 1000, 2000	49.95
Supra 2400 Baud Modem	139.95
Internal 3.5" Drive for 2000	109.00
8UP (2 MG) Board for 2000	495.00

CALL FOR OTHERS

WE CARRY PARTS, CHIPS, POWER SUPPLIES & ALL OTHER ACCESSORIES FOR YOUR COMMODORE & AMIGA.

(800) 962-4489 **AMPEX SYSTEMS, INC.** (404) 263-9190
5344 Jimmy Carter Blvd., Norcross, GA 30093

Public Domain Software Resource

The New Amiga Public Domain Service that lets you ***Choose only the programs you want!*** Hundreds of programs available. Send now for our free catalog!



PDSResource
PO Box 7175, Loma Linda, CA 92354

Only $6.00 per Disk.

Kinder, Gentler Prices From...

Electronic Ecstasy!!

VISA MasterCard

Scanlock (Vidtek)	CALL	Chinon 3.5" internal	$109	Midget Racer 68020	$349
Super Gen 2000s	CALL	Silent Drive external	$149	CSA Dragstrip	CALL
Quantum 40mb SCSI	$539	Micromegs A500 512k	$169	Removable Hard Drives	CALL
Quantum 80mb SCSI	$869	8 up! & Starboard II	CALL	Casio MT-140 Keyboard	$139
Maxtor 96mb SCSI	$719	Toolbox & Subsystem	CALL	Sharp Color Scanner	CALL
Performance Plus HDs	CALL	Hurricane Accelerator	CALL	A-Max Emulator	$124
Hard Drive controllers	CALL	GVP 68030 board	CALL	Fred Fish Disks (Qty 4+)	$4/ea

CALL OUR TOLL FREE ORDER LINE: **800-999-9670** FOR PRICE QUOTES AND INFORMATION CALL **(805) 682-8330**

For mail orders or brochure send to: Electronic Ecstasy, 1401 La Cima Road, Santa Barbara, CA 93101 • Prices subject to change

---

35mm COLOR SLIDES

from your IFF or HAM files

• Brilliant Color • No Curvature Distortion

as low as $1/slide

Call or Write for order form, price list & sample

HAMMOND PHOTOGRAPHIC SERVICES

11280 Washington Place
Culver City, Ca. 90230
(213) 390-3010

COLORFUL IFF-HAM ADULT ART

THE MOST COMPELLING ART MODELS EVER DIGITIZED!

EACH FULL DISK HAS AN ICON DRIVEN PLAYER FOR EASY VIEWING

Sampler Disk $10 - 3 Disk Set $25

15 Disk Collection $120

YOU MUST SIGN A STATEMENT THAT YOU ARE 18 OR OLDER

DigitalPub/257-1033 PEACHTREE ST.NE, ATLANTA, GA 30309

Hypertext for the Amiga

Thinker HyperText/HyperMedia word processor for the creation and organization of information.

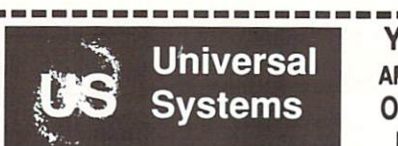
$80 Version 1.03 New Features

COD $5
30 day guarantee
No credit cards

"..stunning capabilities..simple to operate" "power and grace..."
"..superbly crafted.." - Gary Gehman, Amiga Sentry, June 1989

The latest technology combines outline processing and word processing with a multimedia Hypertext engine. Link words, pictures, animations and spreadsheets. Thinker combines database concepts with word processing for maximum creativity.

Poor Person Software, Dept 10, 3721 Starr King Circle
Palo Alto, CA 94306 (415) 493-7234



We Ship Anywhere

UPS RED & BLUE Available
Visa, MC, Discover, Certified Chk., & COD
7004 175th St. SW, Edmonds, Wa 98020

Your Amiga Source

AMIGA Hardware & Software

Over 700 Titles In Stock

For The Best in Amiga Products Call **US** Now!!

Open Sundays, NOON to 5PM PST

1-800-624-3554

FAX 206-672-2442

The InfoMarket

AMIGAWORLD'S InfoMarket is a great opportunity for those with AMIGA products to reach over 95,000 Amiga owners. AmigaWorld is the only publication with a subscription offer reaching every new Amiga owner, national newsstand distribution by ICD Hearst, and single copy sales in computer stores carrying the AMIGA as well as large bookstores such as B. Dalton and Walden Books.

To reserve your 1/12 or 1/9 page display ad call Heather Paquette at 1-800-441-4403. We accept checks, money orders, MasterCard or VISA.

FEMME FATALE

The digital puzzle for adults!

GOOD CLEAN ADDICTIVE FUN by



$34.95
ppd. cont. US
NY & NJ add tax

All NEW and Featuring :
- 10 exquisite photos digitized in full color.
- 5 difficulty levels (25, 40, 64, 80 and 100 tiles).
- Digitized feminine audible assistance.
- Large, uncluttered full screen images.
- Load/Save game options, Hints, Undo, Status.
- Choose from our superb library of digitized data disks or use your own Low, Med., Interl. or Hi-res images.

(Include a signed statement that you're 18+ years old).

GRAPHIC EXPRESSIONS
P.O.Box 110028 Nutley NJ 07110 USA (201)661-0408

Circle 270 on Reader Service card.

Skyles Electric Works
Announces
Autumn 1989 Catalogue
For a free Copy
Call!! or Write!!

1-800-227-9998 1-415-965-1735



Skyles Electric Works
231-E South Whisman Rd.
Mountain View CA 94041

Circle 285 on Reader Service card.



800-544-6599
WI: 414-544-6599

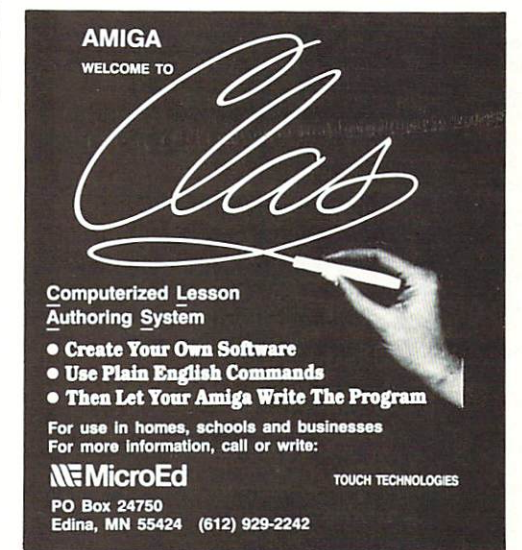
Software	
ANIMagic	63.99
Caligari Consumer	165.00
DigiWorks 3D	80.99
Dynamic Studio 2.1	125.00
F40 Pursuit	29.99
Fast Break	25.99
HISoft BASIC Professional	110.00
Kingdoms of England	30.99
Light Force	27.27
Music X	195.00
Online! Platinum	60.99
Performer (Elan)	39.00
Pen Pal	95.00
Populus	36.99
PrintScript	64.00
Professional Page Templates	40.00
Superbase Professional 3.0	200.00
Trip	27.99
Who! What! When!	59.99
Where is Carmen Sandiego?	32.99

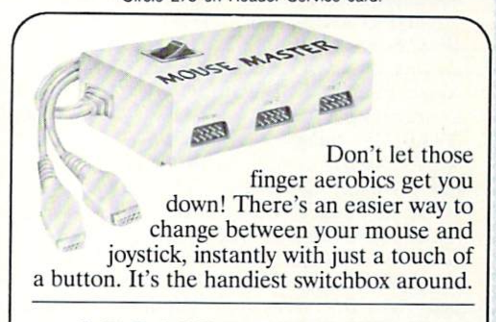
Hardware	
8-Up! DIP 0K	150.00
AMAX	135.00
Cables, Printer or Modem	10.00
Fast Card 2000	170.00
Flash Card (Bare HardCard)	189.99
Floppy Drive, Unidrive	136.25
Floppy Drive, Twin Drive	268.00
Future Sound 2000	93.95
HardFrame 2000	250.00
Impact A2000-2/0 0K	293.20
Impact A2000-HC/40Q	796.00
Modem, Supra 2400 with Cable	140.00
MIDI, ECE	50.00
Midget Racer	350.00
Perfect Sound	66.93
Seagate Drives:	
251N 40meg 38ms 5.25" HH	394.00
157N 48meg 40ms 3.5"	376.00
277N 65meg 40ms 5.25" HH	450.00
296N 80meg 28ms 5.25" HH	550.00
SCSI Controller 500/2000 (Supra)	185.00
SCSI Controller 1000 (Supra)	215.00
Spirit Board 1000 0K	215.00
Spirit Board SIN 500 0K	220.00
Memory Board 501 Clone	160.00
Sony Bulk Diskettes DS/DD Qty 50	60.00

Info: 414-544-2066
BBS: 414-544-6567
Visa/MC/CODs
M–F 9–5 CST
2414 Pendleton, Waukesha, WI 53188

Circle 275 on Reader Service card.

Make the most of your advertising investment! Reserve your space in the AmigaWorld Info-Market today! Call Heather Paquette at 1-800-441-4403.





Don't let those finger aerobics get you down! There's an easier way to change between your mouse and joystick, instantly with just a touch of a button. It's the handiest switchbox around.

MOUSE MASTER

(602) 322-6100

$39.95

plus shipping & handling.
MC, Visa, COD's welcome



1135 N. Jones Blvd. • Tucson, AZ 85716

Circle 293 on Reader Service card.

MASTERPIECE PROFESSIONAL FONT COLLECTION©

20 DISK SET
The Largest Collection Of Fonts And Clip Art Available In A Single Package For The AMIGA.

100 DIFFERENT FONT STYLES
This doesn't mean 10 sizes of 11 fonts. It means 110 DIFFERENT Fonts.

LARGES SIZES • HI-RES
Specially Designed For Video Work. 95% of the fonts are over 100 pt. tall. Easily resized smaller.

PATTERN CLIP ART
141 hi-res DPaint II pages. There are thousands of objects and examples.

BRUSHES
2 Disks Full Of Color Brushes

COLORFONTS
4 Disks Full Of Colorfonts

100 PAGE MANUAL
Full Size Font Printouts

20 DISK SET - ONLY $199.00

VISA / MC • COD • Company Check

Contact your local AMIGA dealer or order direct from AROCK Computer Software
1306 E. Sunshine, Springfield, MO 65804
1-800-288-AROK

PELICAN WARE

PO Box 680, South Street
Plattekill, NY 12568
1-800-637-4286, in New York (914) 566-0633
SPECIAL!! Pagestream $120.00

Software and Hardware Products for the Amiga
call or write for free catalog

Amiga 500 Repair. . . .$68.00

Fast Turnaround!

1-800-373-1188

Please call and obtain a tracking number before shipping your unit to us. Thank you!

National Quality Service
10407 Blue Ridge Blvd., Suite 335
Kansas City, MO 64134

Authorized Quality Service Center commodore

INCLUDES PARTS!
SERVICE ON ALL COMMODORE PRODUCTS
90-DAY WARRANTY ON ALL REPAIRS
MC / VISA / COD / M.O.

Motherboard only. NQS reserves the right to refuse service on excessively damaged units. No packages accepted without TN.

START ABORT
SOURCE DRIVE TARGET DRIVES
DF0 DF1 DF2 DF3
Read Variables Write Variables
READ TRACK WRITE TRACK
Format Control MFM GCR Bit Cell 2us 4us

Now Shipping
$59.95
Free shipping and handling
Michigan residents add 4% tax
Quantity pricing available

RAWCOPY V1.3

- **Ultra-powerful** backup tool for your AMIGA™
- Copies software that no others will
- Deprotects many of your favorite programs
- Supports up to four 3.5" disk drives
- Mouse-driven user interface

To Order:
Micro Systems International
1143 Monroe St.
Carleton, Michigan 48117
Call (313) 654-8402

AmigaWorld is a publication of IDG Communications, the world's largest publisher of computer-related information. IDG Communications publishes over 90 computer publications in 33 countries. Fourteen million people read one or more IDG Communications publications each month. IDG Communications publications contribute to the IDG News Service offering the latest on domestic and international computer news. IDG Communications publications include: ARGENTINA'S *Computerworld Argentina*; ASIA'S *Communications World, Computerworld Hong Kong, Computerworld Malaysia, Computerworld Singapore, Computerworld Southeast Asia, PC Review;* AUSTRALIA'S *Computerworld Australia, Communications World, Australian PC World, Australian Macworld*; AUSTRIA'S *Computerwelt Oesterreich*; BRAZIL'S *DataNews, PC Mundo, Micro Mundo*; CANADA'S *Computer Data;* CHILE'S *Informatica, Computacion Personal*; DENMARK'S *Computerworld Danmark, PC World Danmark*; FINLAND'S *Mikro, Tietoviikko*; FRANCE'S *Le Monde Informatique, Distributique, InfoPC, Telecoms International;* GREECE'S *Micro and Computer Age*; HUNGARY'S *Computerworld SZT, PC Mikrovilage*; INDIA'S *Dataquest*; ISRAEL'S *People & Computers Weekly, People & Computers Bi-Weekly*; ITALY'S *Computerworld Italia*; JAPAN'S *Computerworld Japan*; MEXICO'S *Computerworld Mexico*; THE NETHERLANDS' *Computerworld Netherlands, PC World Benelux*; NEW ZEALAND'S *Computerworld New Zealand*; NORWAY'S *Computerworld Norge, PC World Norge*; PEOPLE'S REPUBLIC OF CHINA'S *China Computerworld, China Computerworld Monthly*; SAUDI ARABIA'S *Arabian Computer News*; SOUTH KOREA'S *Computerworld Korea, PC World Korea*; SPAIN'S *CIMWORLD, Computerworld Espana, Commodore World, PC World Espana, Comunicaciones World, Informatica Industrial*; SWEDEN'S *Computer Sweden, Mikrodatorn, Svenska PC World*; SWITZERLAND'S *Computerworld Schweiz*; UNITED KINGDOM'S *Computer News, DEC Today, ICL Today, LOTUS, PC Business World*; UNITED STATES' *AmigaWorld, CD-ROM Review, CIO, Computer Currents, Computerworld, Digital News, Federal Computer Week, FOCUS Publications, inCider, InfoWorld, Macintosh Today, MacWorld, Computer + Software News, (Micro Marketworld/Lebhar-Friedman), Network World, PC World, Portable Computer Review, Publish!, PC Resource, PCGames, RUN, Windows*; VENEZUELA'S *Computerworld Venezuela*; WEST GERMANY'S *Computerwoche, Information Management, PC Welt, Run, PC Woche, RUN.*

Manuscripts: Contributions in the form of manuscripts with drawings and/or photographs are welcome and will be considered for possible publication. *AmigaWorld* assumes no responsibility for loss or damage to any material. Please enclose a self-addressed, stamped envelope with each submission. Payment for the use of any unsolicited material will be made upon publication. All contributions and editorial correspondence (typed and double-spaced, please) should be directed to *AmigaWorld* Editorial, 80 Elm St., Peterborough, NH 03458; telephone: 603-924-9471. **Advertising Inquiries** should be directed to Advertising Offices, IDG Communications/Peterborough, Inc., 80 Elm St., Peterborough, NH 03458; telephone: 800-441-4403. **Subscription problems or address changes:** Call 1-800-525-0643 (in CO, 1-303-447-9330) or write to *AmigaWorld*, Subscription Dept., PO Box 58804, Boulder, CO 80322-8804. **Problems with advertisers:** Send a description of the problem and your current address to: *AmigaWorld*, 80 Elm St., Peterborough, NH 03458, ATTN.: Sue Maizel, Customer Service Representative.

List of Advertisers

* This advertiser prefers to be contacted directly

This index is provided as an additional service. The publisher does not assume liability for errors or omissions.



As a service to its readers, *AmigaWorld* will periodically publish the names of companies who are having difficulties meeting their customer obligations or who have gone out of business. Readers are advised to contact *AmigaWorld* before dealing with these companies: **Computer Best, FutureSoft Applications. If you have any questions or concerns about advertisers in** *AmigaWorld*, please contact: **Susan Maizel, Customer Service Representative, *AmigaWorld* Magazine, 80 Elm Street, Peterborough, NH 03458.** Through our customer service representative, *AmigaWorld* assists readers with problems they may have with advertisers. However, *AmigaWorld* does not assume any liability for advertiser's claims.

To Receive FREE Product Information



TEAR
out the perforated card. Please print or type your name and address where indicated.

CIRCLE
the numbers on the card that correspond to the reader service numbers on the advertisements that interest you.

ORDER
a one year subscription to AmigaWorld by circling 500 on the card.

MAIL
the card with your check, money order or U.S. currency to:
AmigaWorld
Reader Service
Management Department
P.O. Box 5170
Pittsfield, MA 01203-5170
Or, you may request billing.

LOOK FOR
your subscription in 10 to 12 weeks.

REMEMBER
to put the proper postage on the card.

READER SERVICE

September card valid until November 30, 1989.

☐ Mr.
☐ Mrs.
☐ Ms. Name ______________________
Title ______________________
Address ______________________
City/State/Zip ______________________
Telephone ______________________

A. Do you own an Amiga?
☐ 1. Yes ☐ 2. No

B. If no, will you purchase one of the following?
☐ 3. Amiga 500
☐ 4. Amiga 2000
☐ 5. Amiga 2500
☐ 6. Other (please specify) ______
☐ 7. I currently have no purchasing plans.

C. Would you purchase an Amiga magazine which had a bound-in disk of demo programs, tutorials, etc.?
☐ 8. Yes ☐ 9. No

D. Which software packages will you purchase in the next 12 months? (Please choose all that apply.)
☐ 10. Entertainment
☐ 11. Word Processing
☐ 12. Communications
☐ 13. Spreadsheets
☐ 14. Home Productivity
☐ 15. Programming
☐ 16. Video
☐ 17. Database Management
☐ 18. Financial Management
☐ 19. Graphics
☐ 20. Education
☐ 21. Music
☐ 22. Animation
☐ 23. Sound/Speech
☐ 24. CAD/CAM
☐ 25. Other

E. Which peripherals will you purchase in the next 12 months? (Please choose all that apply.)
☐ 26. Monitor
☐ 27. Dot Matrix Printer
☐ 28. Modem
☐ 29. Memory Expansion
☐ 30. 3½" Floppy Drive
☐ 31. Hard Disk Drive
☐ 32. Gen Lock or Frame Grabber
☐ 33. Music Hardware
☐ 34. Color Printer
☐ 35. Laser Printer

F. If you are not a subscriber, please circle 499 on this card.

G. If you would like a one year subscription to AmigaWorld (12 issues), please circle 500 on this card. Each subscription is $29.97. Canada and Mexico $38.97, Foreign Surface, $49.97, Foreign Airmail $84.97 (U.S. Funds Drawn on U.S. Bank). Orders from outside of North America must be prepaid. Please allow 10–12 weeks for delivery.

1	6	11	16	21	201	206	211	216	221	401	406	411	416	421
2	7	12	17	22	202	207	212	217	222	402	407	412	417	422
3	8	13	18	23	203	208	213	218	223	403	408	413	418	423
4	9	14	19	24	204	209	214	219	224	404	409	414	419	424
5	10	15	20	25	205	210	215	220	225	405	410	415	420	425
26	31	36	41	46	226	231	236	241	246	426	431	436	441	446
27	32	37	42	47	227	232	237	242	247	427	432	437	442	447
28	33	38	43	48	228	233	238	243	248	428	433	438	443	448
29	34	39	44	49	229	234	239	244	249	429	434	439	444	449
30	35	40	45	50	230	235	240	245	250	430	435	440	445	450
51	56	61	66	71	251	256	261	266	271	451	456	461	466	471
52	57	62	67	72	252	257	262	267	272	452	457	462	467	472
53	58	63	68	73	253	258	263	268	273	453	458	463	468	473
54	59	64	69	74	254	259	264	269	274	454	459	464	469	474
55	60	65	70	75	255	260	265	270	275	455	460	465	470	475
76	81	86	91	96	276	281	286	291	296	476	481	486	491	496
77	82	87	92	97	277	282	287	292	297	477	482	487	492	497
78	83	88	93	98	278	283	288	293	298	478	483	488	493	498
79	84	89	94	99	279	284	289	294	299	479	484	489	494	499
80	85	90	95	100	280	285	290	295	300	480	485	490	495	500
101	106	111	116	121	301	306	311	316	321	501	506	511	516	521
102	107	112	117	122	302	307	312	317	322	502	507	512	517	522
103	108	113	118	123	303	308	313	318	323	503	508	513	518	523
104	109	114	119	124	304	309	314	319	324	504	509	514	519	524
105	110	115	120	125	305	310	315	320	325	505	510	515	520	525
126	131	136	141	146	326	331	336	341	346	526	531	536	541	546
127	132	137	142	147	327	332	337	342	347	527	532	537	542	547
128	133	138	143	148	328	333	338	343	348	528	533	538	543	548
129	134	139	144	149	329	334	339	344	349	529	534	539	544	549
130	135	140	145	150	330	335	340	345	350	530	535	540	545	550
151	156	161	166	171	351	356	361	366	371	551	556	561	566	571
152	157	162	167	172	352	357	362	367	372	552	557	562	567	572
153	158	163	168	173	353	358	363	368	373	553	558	563	568	573
154	159	164	169	174	354	359	364	369	374	554	559	564	569	574
155	160	165	170	175	355	360	365	370	375	555	560	565	570	575
176	181	186	191	196	376	381	386	391	396	576	581	586	591	596
177	182	187	192	197	377	382	387	392	397	577	582	587	592	597
178	183	188	193	198	378	383	388	393	398	578	583	588	593	598
179	184	189	194	199	379	384	389	394	399	579	584	589	594	599
180	185	190	195	200	380	385	390	395	400	580	585	590	595	600

READER SERVICE

September card valid until November 30, 1989.

☐ Mr.
☐ Mrs.
☐ Ms. Name ______________________
Title ______________________
Address ______________________
City/State/Zip ______________________
Telephone ______________________

A. Do you own an Amiga?
☐ 1. Yes ☐ 2. No

B. If no, will you purchase one of the following?
☐ 3. Amiga 500
☐ 4. Amiga 2000
☐ 5. Amiga 2500
☐ 6. Other (please specify) ______
☐ 7. I currently have no purchasing plans.

C. Would you purchase an Amiga magazine which had a bound-in disk of demo programs, tutorials, etc.?
☐ 8. Yes ☐ 9. No

D. Which software packages will you purchase in the next 12 months? (Please choose all that apply.)
☐ 10. Entertainment
☐ 11. Word Processing
☐ 12. Communications
☐ 13. Spreadsheets
☐ 14. Home Productivity
☐ 15. Programming
☐ 16. Video
☐ 17. Database Management
☐ 18. Financial Management
☐ 19. Graphics
☐ 20. Education
☐ 21. Music
☐ 22. Animation
☐ 23. Sound/Speech
☐ 24. CAD/CAM
☐ 25. Other

E. Which peripherals will you purchase in the next 12 months? (Please choose all that apply.)
☐ 26. Monitor
☐ 27. Dot Matrix Printer
☐ 28. Modem
☐ 29. Memory Expansion
☐ 30. 3½" Floppy Drive
☐ 31. Hard Disk Drive
☐ 32. Gen Lock or Frame Grabber
☐ 33. Music Hardware
☐ 34. Color Printer
☐ 35. Laser Printer

F. If you are not a subscriber, please circle 499 on this card.

G. If you would like a one year subscription to AmigaWorld (12 issues), please circle 500 on this card. Each subscription is $29.97. Canada and Mexico $38.97, Foreign Surface, $49.97, Foreign Airmail $84.97 (U.S. Funds Drawn on U.S. Bank). Orders from outside of North America must be prepaid. Please allow 10–12 weeks for delivery.

1	6	11	16	21	201	206	211	216	221	401	406	411	416	421
2	7	12	17	22	202	207	212	217	222	402	407	412	417	422
3	8	13	18	23	203	208	213	218	223	403	408	413	418	423
4	9	14	19	24	204	209	214	219	224	404	409	414	419	424
5	10	15	20	25	205	210	215	220	225	405	410	415	420	425
26	31	36	41	46	226	231	236	241	246	426	431	436	441	446
27	32	37	42	47	227	232	237	242	247	427	432	437	442	447
28	33	38	43	48	228	233	238	243	248	428	433	438	443	448
29	34	39	44	49	229	234	239	244	249	429	434	439	444	449
30	35	40	45	50	230	235	240	245	250	430	435	440	445	450
51	56	61	66	71	251	256	261	266	271	451	456	461	466	471
52	57	62	67	72	252	257	262	267	272	452	457	462	467	472
53	58	63	68	73	253	258	263	268	273	453	458	463	468	473
54	59	64	69	74	254	259	264	269	274	454	459	464	469	474
55	60	65	70	75	255	260	265	270	275	455	460	465	470	475
76	81	86	91	96	276	281	286	291	296	476	481	486	491	496
77	82	87	92	97	277	282	287	292	297	477	482	487	492	497
78	83	88	93	98	278	283	288	293	298	478	483	488	493	498
79	84	89	94	99	279	284	289	294	299	479	484	489	494	499
80	85	90	95	100	280	285	290	295	300	480	485	490	495	500
101	106	111	116	121	301	306	311	316	321	501	506	511	516	521
102	107	112	117	122	302	307	312	317	322	502	507	512	517	522
103	108	113	118	123	303	308	313	318	323	503	508	513	518	523
104	109	114	119	124	304	309	314	319	324	504	509	514	519	524
105	110	115	120	125	305	310	315	320	325	505	510	515	520	525
126	131	136	141	146	326	331	336	341	346	526	531	536	541	546
127	132	137	142	147	327	332	337	342	347	527	532	537	542	547
128	133	138	143	148	328	333	338	343	348	528	533	538	543	548
129	134	139	144	149	329	334	339	344	349	529	534	539	544	549
130	135	140	145	150	330	335	340	345	350	530	535	540	545	550
151	156	161	166	171	351	356	361	366	371	551	556	561	566	571
152	157	162	167	172	352	357	362	367	372	552	557	562	567	572
153	158	163	168	173	353	358	363	368	373	553	558	563	568	573
154	159	164	169	174	354	359	364	369	374	554	559	564	569	574
155	160	165	170	175	355	360	365	370	375	555	560	565	570	575
176	181	186	191	196	376	381	386	391	396	576	581	586	591	596
177	182	187	192	197	377	382	387	392	397	577	582	587	592	597
178	183	188	193	198	378	383	388	393	398	578	583	588	593	598
179	184	189	194	199	379	384	389	394	399	579	584	589	594	599
180	185	190	195	200	380	385	390	395	400	580	585	590	595	600

READER SERVICE

To Receive FREE Product Information



TEAR
out the perforated card. Please print or type your name and address where indicated.

CIRCLE
the numbers on the card that correspond to the reader service numbers on the advertisements that interest you.

ORDER
a one year subscription to AmigaWorld by circling 500 on the card.

MAIL
the card with your check, money order or U.S. currency to:
AmigaWorld
Reader Service
Management Department
P.O. Box 5170
Pittsfield, MA 01203-5170
Or, you may request billing.

LOOK FOR
your subscription in 10 to 12 weeks.

REMEMBER
to put the proper postage on the card.

READER SERVICE

PLEASE USE
FIRST CLASS
LETTER
POSTAGE

AmigaWorld
Reader Service
Management Department
P.O. Box 5170
Pittsfield, MA 01203-5170

PLEASE USE
FIRST CLASS
LETTER
POSTAGE

AmigaWorld
Reader Service
Management Department
P.O. Box 5170
Pittsfield, MA 01203-5170

Take a Close Look at the Master-3A

Introducing the

MASTER-3A

100% *AMIGA*® COMPATIBLE 3½" Compatible Disk Drive

Inside the incredibly small Master-3A is a powerhouse of advanced technology for your *Amiga.*®

- ☐ Full 1 Year Warranty
- ☐ Extremely quiet operation
- ☐ Double sided/double density 1 MB capacity
- ☐ Durable metal case eliminates radio frequency interference and drive noise
- ☐ Pass through connector lets you easily add additional drives
- ☐ Extra long shielded input cable (28") lets you position drive where you want it
- ☐ Spring loaded door keeps out dust
- ☐ Smaller, slimmer design (4"w X 1¼"h X 9"d)
- ☐ Consumes less power

For an even closer look at the *Amiga*® compatible Master-3A, phone your nearest dealer:

Computer Direct (IL)
(312) 382-6811
(800) 289-9473

ComputAbility (WI)
(414) 357-8181
(800) 558-0003

Micro Computer Service (MI)
(313) 427-7713
(800) 433-7756

Manufactured by
Oceanic



Distributed by
Konyo International, Inc. Outside CA 800-356-5178 / Inside CA 714-633-1026 / FAX 714-633-5339

Amiga is a registered trademark of Commodore - Amiga, Inc.

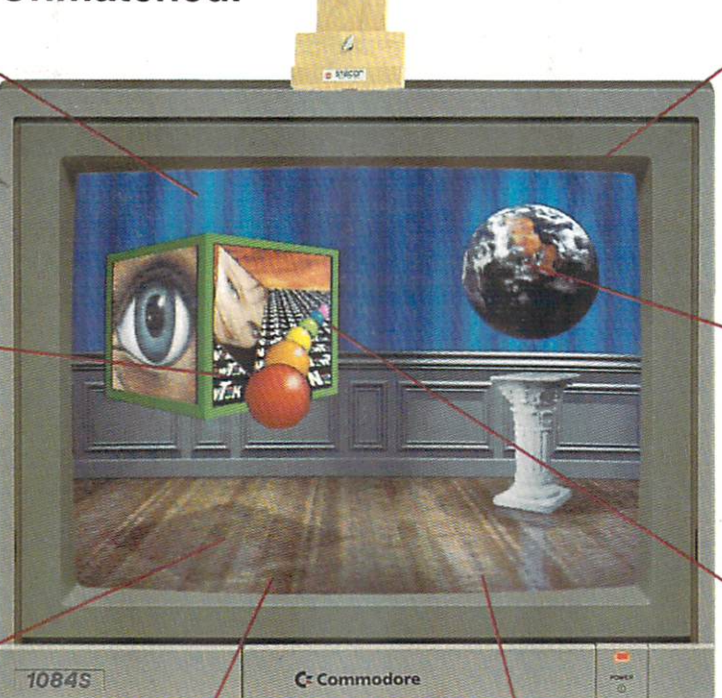
Circle 117 on Reader Service card.

Dealer Inquiries Invited

Variable Dither - Computed internally at 30 bits per pixel (over one billion colors). Gives you over 100,000 apparent colors on screen.

Unmatched.

Super BitMaps with Auto-Scrolling - Real-time scrolling on up to 1024 pixels high or wide image with full overscan display.



Sophisticated.

Flexible.

Flexible Text Rendering - Allows for anti-aliased fonts, Rainbow Fonts and Transparent Fonts and more.

Colorize - Play Ted Turner and add color to black-and-white images or change colors on already colored images.

Revolutionary.

Powerful.

Texture Mapping with Anti-Aliasing - Gives you super-fast warping and stretching of any image.

User-Controllable Transparency - Allows real time control of the amount of transparency and the location of the light source.

Intuitive.

Unlimited.

Transfer 24 - Digi-Paint 3 comes with Transfer 24 image processing software to give you support of all Amiga resolution modes and the same advanced image processing found with NewTek's best-selling Digi-View Gold Video Digitizer.

100% Assembly Language - Makes Digi-Paint 3 the fastest HAM paint program ever!



For more information call NewTek at 800-843-8934 or 913-354-1146



Digi-Paint 3, Digi-View Gold and Transfer 24 are trademarks of NewTek Inc.

Circle 102 on Reader Service card.